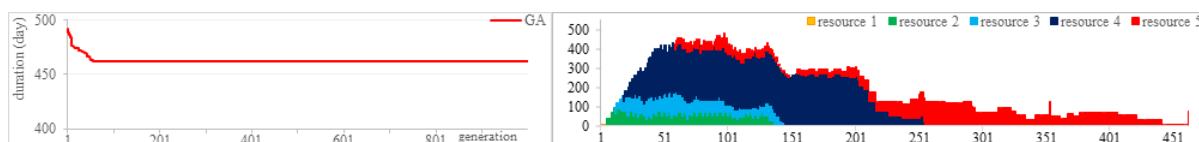
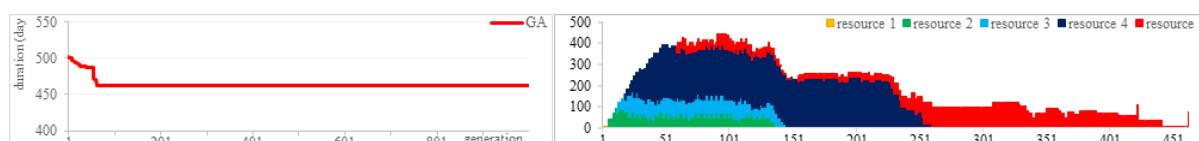


**Scenario A**

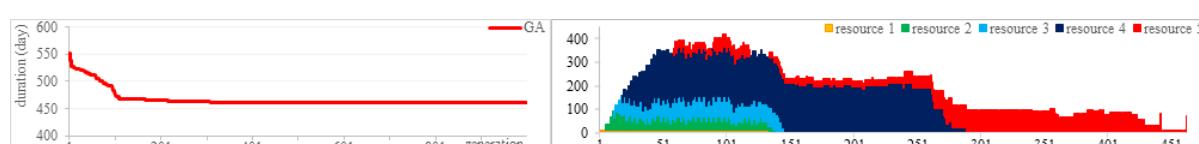
A1

**Figure 1:** For capacity 1, best local value and resource graph (normal duration).

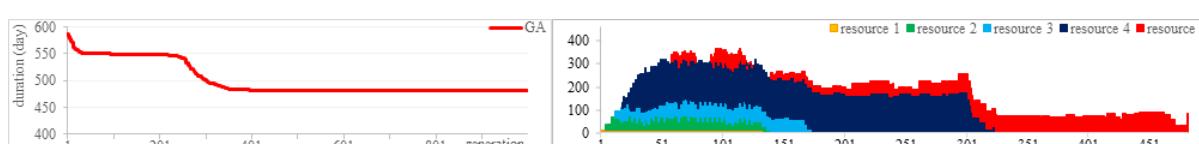
A2

**Figure 2:** For capacity 2, best local value and resource graph (normal duration).

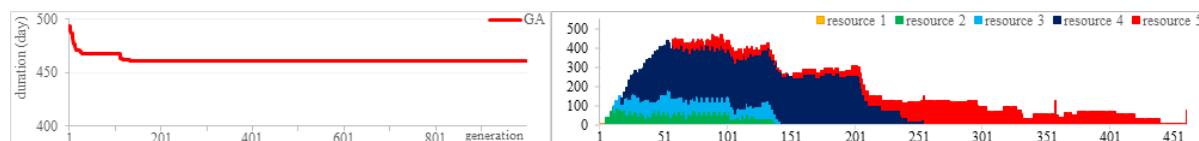
A3

**Figure 3:** For capacity 3, best local value and resource graph (normal duration).

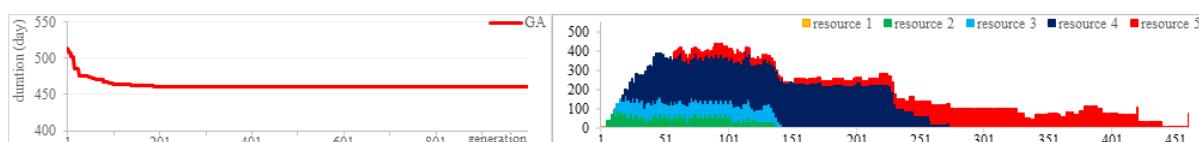
A4

**Figure 4:** For capacity 4, best local value and resource graph (normal duration).**Scenario B**

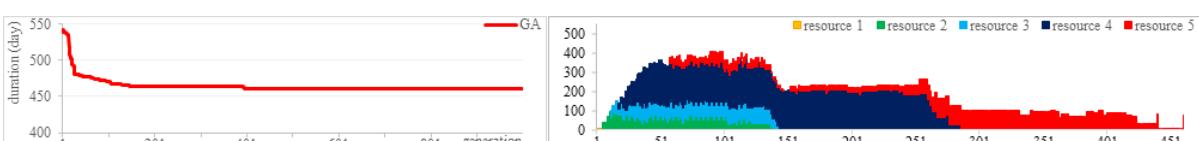
B1

**Figure 5:** For capacity 1, best local value and resource graph (resource loading).

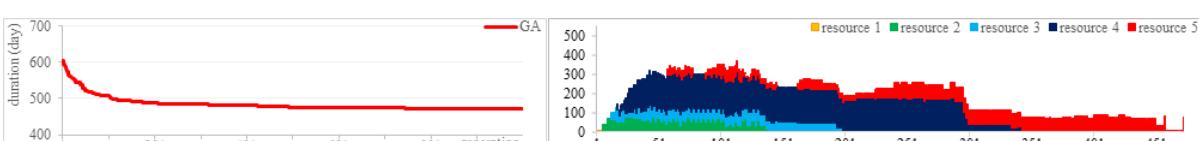
B2

**Figure 6:** For capacity 2, best local value and resource graph (resource loading).

B3

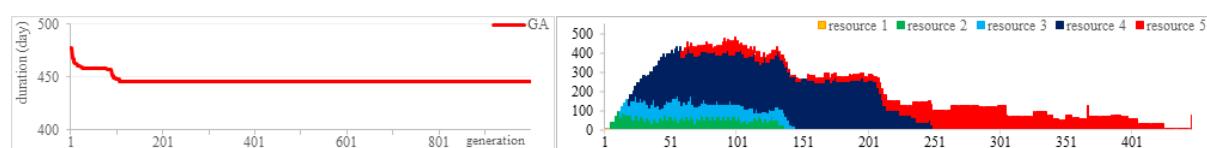
**Figure 7:** For capacity 3, best local value and resource graph (resource loading).

B4

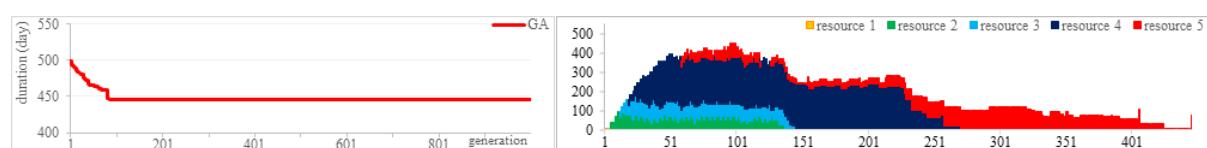
**Figure 8:** For capacity 4, best local value and resource graph (resource loading).

**Scenario C**

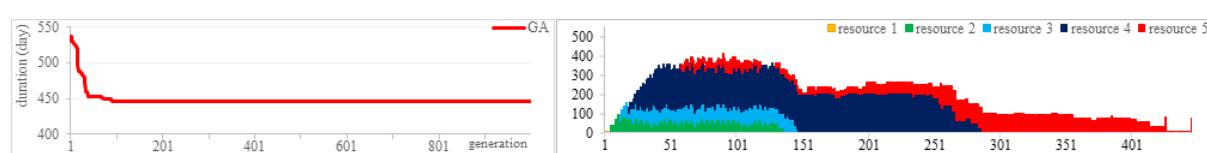
C1

**Figure 9:** For capacity 1, best local value and resource graph (resource loading of 3 people on critical activities).

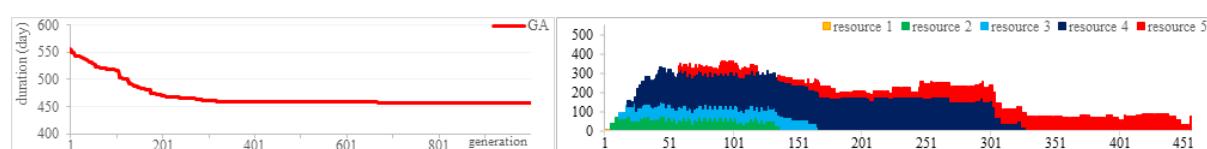
C2

**Figure 10:** For capacity 2, best local value and resource graph (resource loading of 3 people on critical activities).

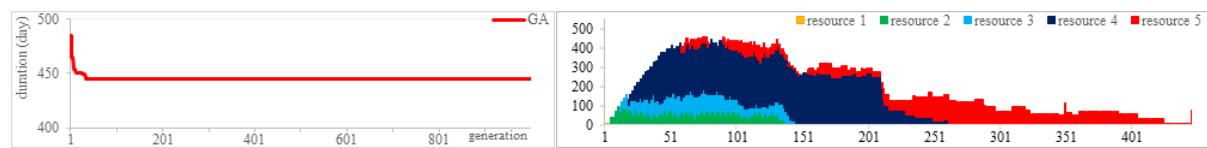
C3

**Figure 11:** For capacity 3, best local value and resource graph (resource loading of 3 people on critical activities).

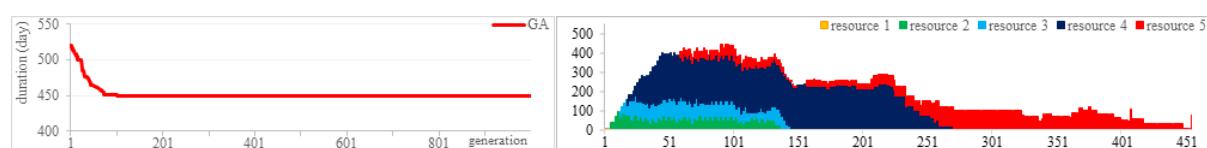
C4

**Figure 12:** For capacity 4, best local value and resource graph (resource loading of 3 people on critical activities).**Scenario D**

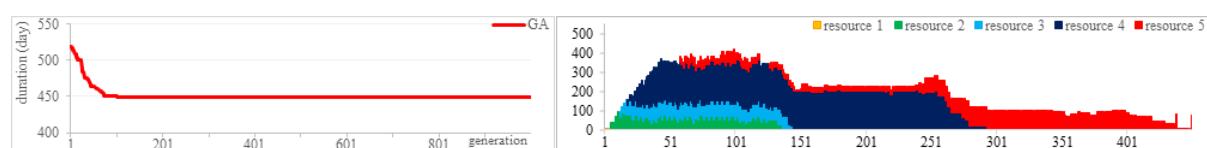
D1

**Figure 13:** For capacity 1, best local value and resource graph (resource loading of 3 people on critical activities).

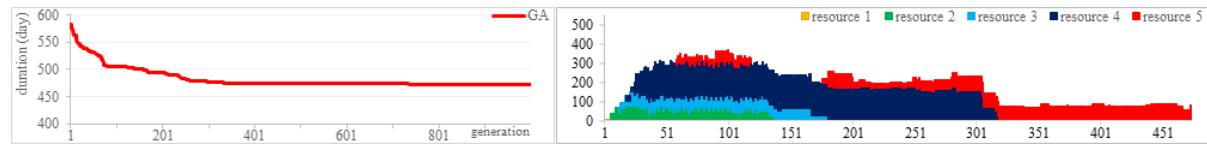
D2

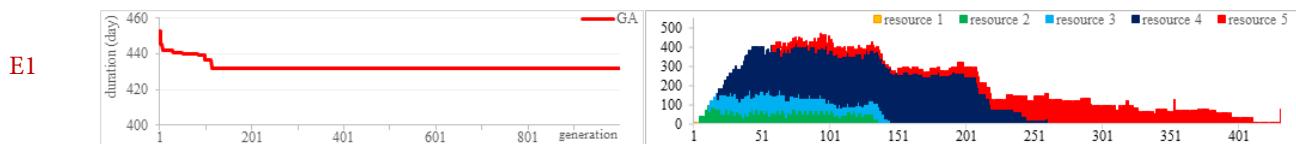
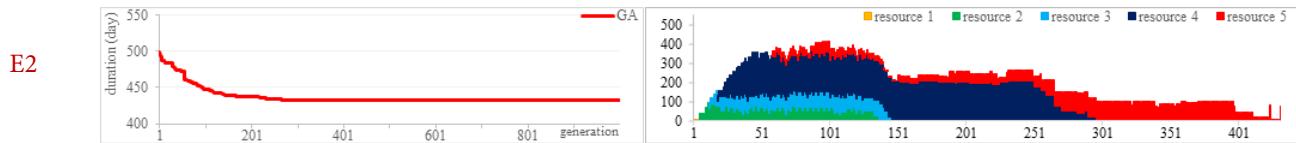
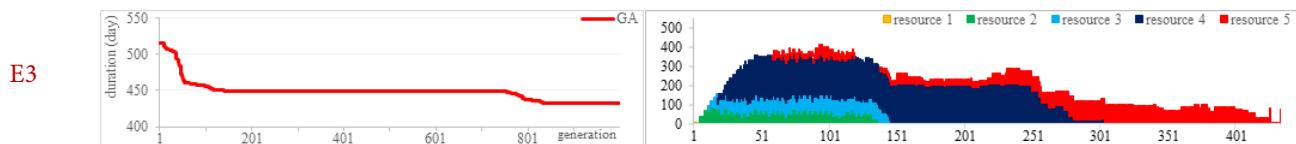
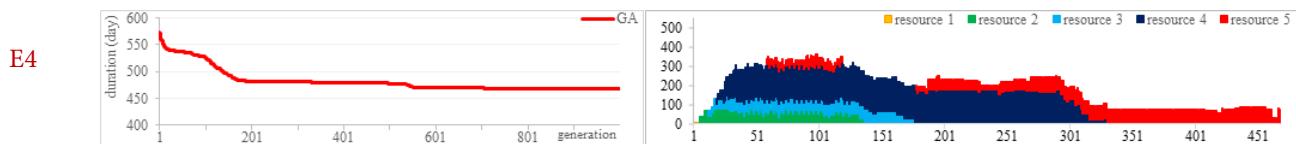
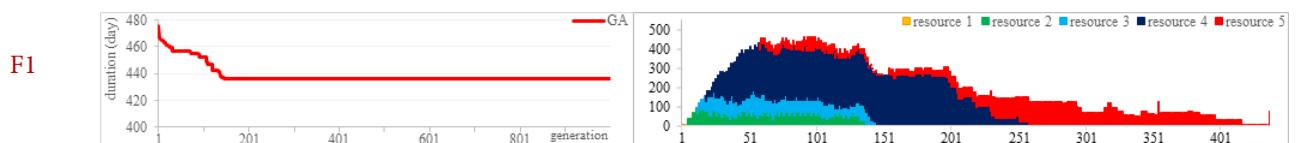
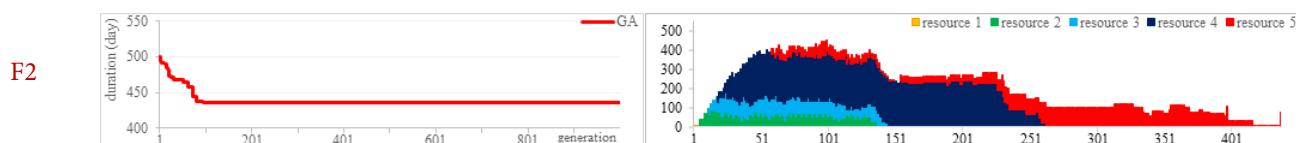
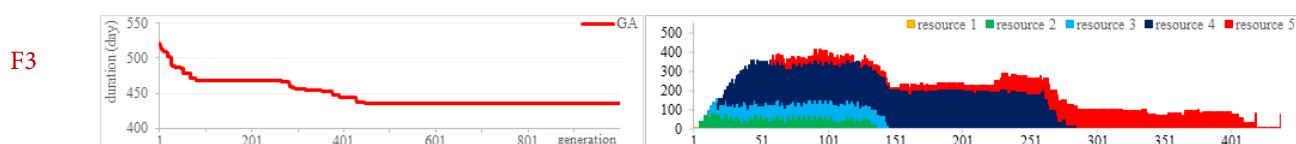
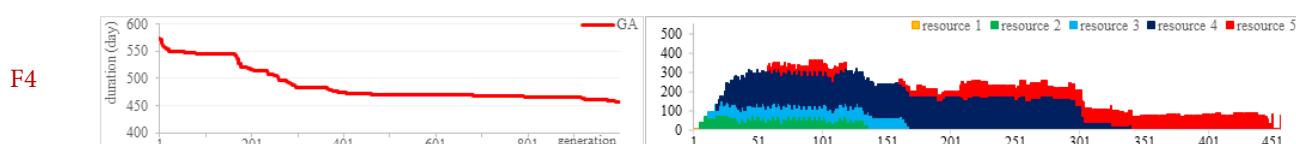
**Figure 14:** For capacity 2, best local value and resource graph (resource loading of 3 people on critical activities).

D3

**Figure 15:** For capacity 3, best local value and resource graph (resource loading of 3 people on critical activities).

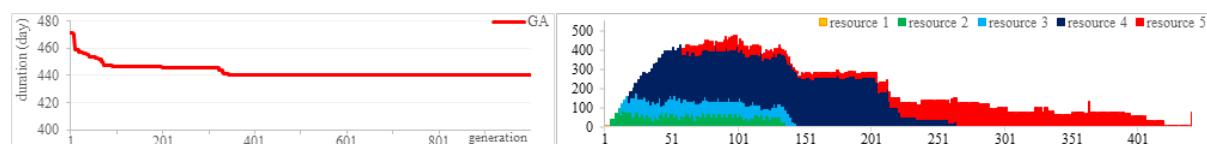
D4

**Figure 16:** For capacity 4, best local value and resource graph (resource loading of 3 people on critical activities).

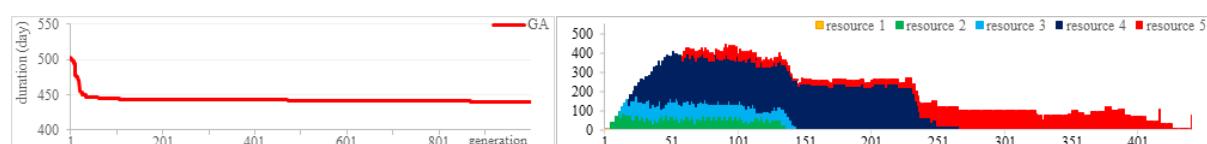
**Scenario E****Figure 17:** For capacity 1, best local value and resource graph (resource loading of 3 people on critical activities).**Figure 18:** For capacity 2, best local value and resource graph (resource loading of 3 people on critical activities).**Figure 19:** For capacity 3, best local value and resource graph (resource loading of 3 people on critical activities).**Figure 20:** For capacity 4, best local value and resource graph (resource loading of 3 people on critical activities).**Scenario F****Figure 21:** For capacity 1, best local value and resource graph (resource loading of 5 people on critical activities).**Figure 22:** For capacity 2, best local value and resource graph (resource loading of 5 people on critical activities).**Figure 23:** For capacity 3, best local value and resource graph (resource loading of 5 people on critical activities).**Figure 24:** For capacity 4, best local value and resource graph (resource loading of 5 people on critical activities).

**Scenario G**

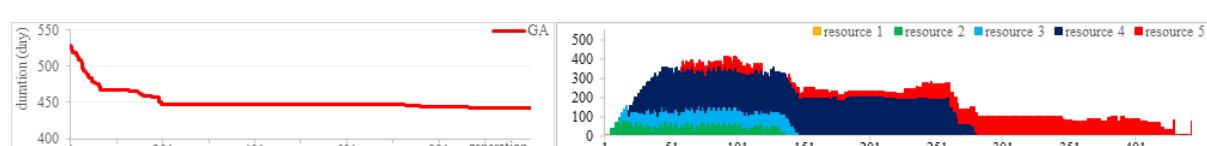
G1

**Figure 25:** For capacity 1, best local value and resource graph (resource loading of 5 people on critical activities).

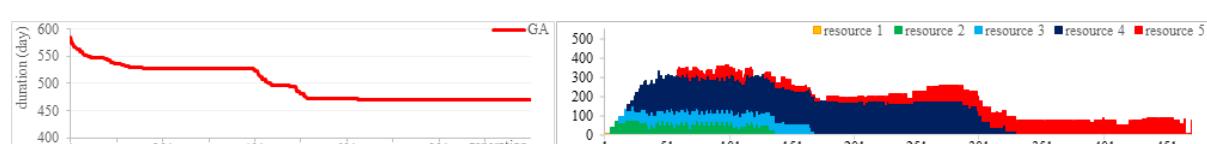
G2

**Figure 26:** For capacity 2, best local value and resource graph (resource loading of 5 people on critical activities).

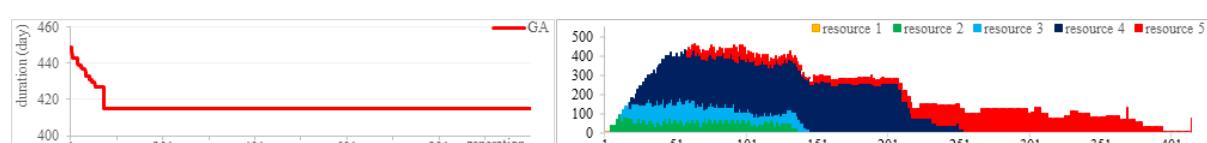
G3

**Figure 27:** For capacity 3, best local value and resource graph (resource loading of 5 people on critical activities).

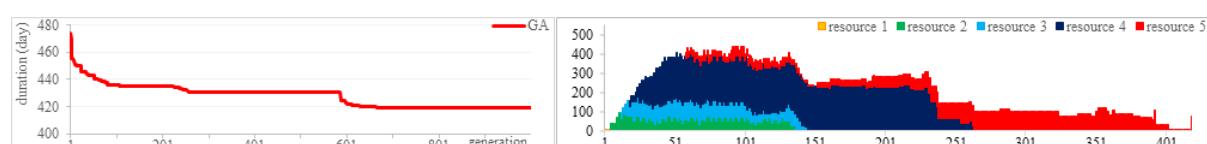
G4

**Figure 28:** For capacity 4, best local value and resource graph (resource loading of 5 people on critical activities).**Scenario H**

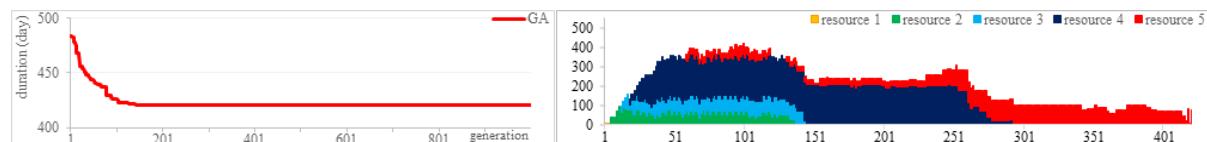
H1

**Figure 29:** For capacity 1, best local value and resource graph (resource loading of 5 people on critical activities).

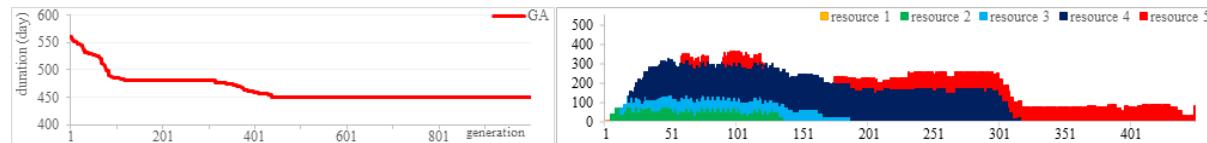
H2

**Figure 30:** For capacity 2, best local value and resource graph (resource loading of 5 people on critical activities).

H3

**Figure 31:** For capacity 3, best local value and resource graph (resource loading of 5 people on critical activities).

H4

**Figure 32:** For capacity 4, best local value and resource graph (resource loading of 5 people on critical activities).

## Appendices

**Appendix 1.** The block construction activities, predecessors, and manpower values for Ships A and B.

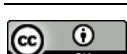
ID	Work Station	Activities	Predecessors	Manpower (Person.Day)	
				Normal	Crashed
1	WS 02	Start		0	0
2	WS 02	A U202 Cutting	1	10	10
3	WS 02	B U102 Cutting	2	10	10
4	WS 02	A U101 Cutting	3;2	10	10
5	WS 02	B U101 Cutting	4;3	10	10
6	WS 02	A U103 Cutting	5;4;2	10	10
7	WS 02	A U104 Cutting	6	10	10
8	WS 02	B U103 Cutting	7;5	10	10
9	WS 02	A U105 Cutting	8;7	10	10
10	WS 02	B U104 Cutting	9;8	10	10
11	WS 02	A U106 Cutting	10;9	10	10
12	WS 02	B U105 Cutting	11;10	10	10
13	WS 02	B U106 Cutting	12	10	10
14	WS 02	A U203 Cutting	13;7;2	10	10
15	WS 02	B U107 Cutting	14;13	10	10
16	WS 02	A U204 Cutting	15;14;7	10	10
17	WS 02	B U203 Cutting	16;3;8;11	10	10
18	WS 02	A U205 Cutting	17;12;16	10	10
19	WS 02	B U204 Cutting	18;7;17	10	10
20	WS 02	A U301 Cutting	19;4;11	10	10
21	WS 02	B U205 Cutting	20;12;19	10	10
22	WS 02	A U302 Cutting	21;20;2	10	10
23	WS 02	B U206 Cutting	22;13;21	10	10
24	WS 02	A U303 Cutting	23;14;22	10	10
25	WS 02	B U301 Cutting	24;15;5	10	10
26	WS 02	A U304 Cutting	25;16;24	10	10
27	WS 02	B U302 Cutting	26;3;25	10	10
28	WS 02	A U305 Cutting	26;18;27	10	10
29	WS 02	B U303 Cutting	28;17	10	10
30	WS 02	A U401 Cutting	29;20;28	10	10
31	WS 02	B U304 Cutting	30;29;19	10	10
32	WS 02	A U402 Cutting	31;22;30	10	10
33	WS 02	B U305 Cutting	32;21;31	10	10
34	WS 02	A U403 Cutting	33;24;32	10	10
35	WS 02	B U306 Cutting	34;33;23	10	10
36	WS 02	A U404 Cutting	35;34;26	10	10
37	WS 02	B U401 Cutting	36;25;35	10	10
38	WS 02	A U405 Cutting	37;28;36	10	10
39	WS 02	B U402 Cutting	38;37	10	10
40	WS 02	A U501 Cutting	39;32;38	10	10
41	WS 02	B U403 Cutting	40;29;39	10	10
42	WS 02	A U502 Cutting	41;32;40	10	10
43	WS 02	B U404 Cutting	42;31;41	10	10
44	WS 02	A U503 Cutting	43;34;42	10	10
45	WS 02	B U405 Cutting	44;43;33	10	10
46	WS 02	A U504 Cutting	45;36;44	10	10



47	WS 02	B U406 Cutting	46;35;45	10	10
48	WS 02	A U505 Cutting	47;46;38	10	10
49	WS 02	B U501 Cutting	48;37;39;47	10	10
50	WS 02	A U601 Cutting	49;40	10	10
51	WS 02	B U502 Cutting	50;39;49	10	10
52	WS 02	A U602 Cutting	51;42;44	10	10
53	WS 02	B U503 Cutting	52;51;41	10	10
54	WS 02	A U603 Cutting	53;48	10	10
55	WS 02	B U504 Cutting	54;43;53	10	10
56	WS 02	A U701 Cutting	55;52	10	10
57	WS 02	B U505 Cutting	56;45;55	10	10
58	WS 02	A U801 Cutting	57;56	10	10
59	WS 02	B U506 Cutting	58;47;57	10	10
60	WS 02	B U601 Cutting	59;49	10	10
61	WS 02	B U602 Cutting	60;53;55	10	10
62	WS 02	B U603 Cutting	61;57	10	10
63	WS 02	B U604 Cutting	62;59	10	10
64	WS 02	B U701 Cutting	63;61;62	10	10
65	WS 02	B U801 Cutting	64	10	10
66	WS 04	A U101 Prefabrication	4	25	30
67	WS 04	B U101 Prefabrication	5	25	30
68	WS 04	A U103 Prefabrication	6	20	24
69	WS 04	B U102 Prefabrication	3	30	36
70	WS 04	A U104 Prefabrication	7	20	24
71	WS 04	B U103 Prefabrication	8	25	30
72	WS 04	A U105 Prefabrication	9	20	24
73	WS 04	B U104 Prefabrication	10	20	24
74	WS 04	A U106 Prefabrication	11	20	24
75	WS 04	B U105 Prefabrication	12	20	24
76	WS 04	A U202 Prefabrication	2	30	36
77	WS 04	B U106 Prefabrication	13	15	18
78	WS 04	A U203 Prefabrication	14	20	24
79	WS 04	B U107 Prefabrication	15	6	7
80	WS 04	A U204 Prefabrication	16	20	24
81	WS 04	B U203 Prefabrication	17	25	30
82	WS 04	A U205 Prefabrication	18	4	5
83	WS 04	B U204 Prefabrication	19	25	30
84	WS 04	A U301 Prefabrication	20	20	24
85	WS 04	B U205 Prefabrication	21	20	24
86	WS 04	A U302 Prefabrication	22	20	24
87	WS 04	B U206 Prefabrication	23	20	24
88	WS 04	A U303 Prefabrication	24	20	24
89	WS 04	B U301 Prefabrication	25	20	24
90	WS 04	A U304 Prefabrication	26	10	12
91	WS 04	B U302 Prefabrication	27	20	24
92	WS 04	A U305 Prefabrication	28	20	24
93	WS 04	B U303 Prefabrication	29	20	24
94	WS 04	A U401 Prefabrication	30	20	24
95	WS 04	B U304 Prefabrication	31	20	24
96	WS 04	A U402 Prefabrication	32	6	7
97	WS 04	B U305 Prefabrication	33	20	24



98	WS 04	A U403 Prefabrication	34	25	30
99	WS 04	B U306 Prefabrication	35	20	24
100	WS 04	A U404 Prefabrication	36	20	24
101	WS 04	B U401 Prefabrication	37	20	24
102	WS 04	A U405 Prefabrication	38	20	24
103	WS 04	B U402 Prefabrication	39	20	24
104	WS 04	A U501 Prefabrication	40	20	24
105	WS 04	B U403 Prefabrication	41	20	24
106	WS 04	A U502 Prefabrication	42	20	24
107	WS 04	B U404 Prefabrication	43	20	24
108	WS 04	A U503 Prefabrication	44	20	24
109	WS 04	B U405 Prefabrication	45	20	24
110	WS 04	A U504 Prefabrication	46	20	24
111	WS 04	B U406 Prefabrication	47	20	24
112	WS 04	A U505 Prefabrication	48	20	24
113	WS 04	B U501 Prefabrication	49	20	24
114	WS 04	A U601 Prefabrication	50	10	12
115	WS 04	B U502 Prefabrication	51	4	5
116	WS 04	A U602 Prefabrication	52	20	24
117	WS 04	B U503 Prefabrication	53	15	18
118	WS 04	A U603 Prefabrication	54	20	24
119	WS 04	B U504 Prefabrication	55	20	24
120	WS 04	A U701 Prefabrication	56	20	24
121	WS 04	B U505 Prefabrication	57	20	24
122	WS 04	A U801 Prefabrication	58	10	12
123	WS 04	B U506 Prefabrication	59	20	24
124	WS 04	B U601 Prefabrication	60	10	12
125	WS 04	B U602 Prefabrication	61	20	24
126	WS 04	B U603 Prefabrication	62	20	24
127	WS 04	B U604 Prefabrication	63	20	24
128	WS 04	B U701 Prefabrication	64	20	24
129	WS 04	B U801 Prefabrication	65	10	12
130	WS 05	A U101 Panel Production	66	25	30
131	WS 05	B U101 Panel Production	67	25	30
132	WS 05	A U103 Panel Production	68	20	24
133	WS 05	B U102 Panel Production	69	30	36
134	WS 05	A U104 Panel Production	70	20	24
135	WS 05	B U103 Panel Production	71	25	30
136	WS 05	A U105 Panel Production	72	20	24
137	WS 05	B U104 Panel Production	73	20	24
138	WS 05	A U106 Panel Production	74	20	24
139	WS 05	B U105 Panel Production	75	20	24
140	WS 05	A U202 Panel Production	76	30	36
141	WS 05	B U106 Panel Production	77	15	18
142	WS 05	A U203 Panel Production	78	20	24
143	WS 05	B U107 Panel Production	79	6	7
144	WS 05	A U204 Panel Production	80	20	24
145	WS 05	B U203 Panel Production	81	25	30
146	WS 05	A U205 Panel Production	82	4	5
147	WS 05	B U204 Panel Production	83	25	30
148	WS 05	A U301 Panel Production	84	20	24

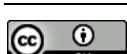


149	WS 05	B U205 Panel Production	85	20	24
150	WS 05	A U302 Panel Production	86	20	24
151	WS 05	B U206 Panel Production	87	20	24
152	WS 05	A U303 Panel Production	88	20	24
153	WS 05	B U301 Panel Production	89	20	24
154	WS 05	A U304 Panel Production	90	10	12
155	WS 05	B U302 Panel Production	91	20	24
156	WS 05	A U305 Panel Production	92	20	24
157	WS 05	B U303 Panel Production	93	20	24
158	WS 05	A U401 Panel Production	94	20	24
159	WS 05	B U304 Panel Production	95	20	24
160	WS 05	A U402 Panel Production	96	6	7
161	WS 05	B U305 Panel Production	97	20	24
162	WS 05	A U403 Panel Production	98	25	30
163	WS 05	B U306 Panel Production	99	20	24
164	WS 05	A U404 Panel Production	100	20	24
165	WS 05	B U401 Panel Production	101	20	24
166	WS 05	A U405 Panel Production	102	20	24
167	WS 05	B U402 Panel Production	103	20	24
168	WS 05	A U501 Panel Production	104	20	24
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170	WS 05	A U502 Panel Production	106	20	24
171	WS 05	B U404 Panel Production	107	20	24
172	WS 05	A U503 Panel Production	108	20	24
173	WS 05	B U405 Panel Production	109	20	24
174	WS 05	A U504 Panel Production	110	20	24
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176	WS 05	A U505 Panel Production	112	20	24
177	WS 05	B U501 Panel Production	113	20	24
178	WS 05	A U601 Panel Production	114	10	12
179	WS 05	B U502 Panel Production	115	4	5
180	WS 05	A U602 Panel Production	116	20	24
181	WS 05	B U503 Panel Production	117	15	18
182	WS 05	A U603 Panel Production	118	20	24
183	WS 05	B U504 Panel Production	119	20	24
184	WS 05	A U701 Panel Production	120	20	24
185	WS 05	B U505 Panel Production	121	20	24
186	WS 05	A U801 Panel Production	122	10	12
187	WS 05	B U506 Panel Production	123	20	24
188	WS 05	B U601 Panel Production	124	10	12
189	WS 05	B U602 Panel Production	125	20	24
190	WS 05	B U603 Panel Production	126	20	24
191	WS 05	B U604 Panel Production	127	20	24
192	WS 05	B U701 Panel Production	128	20	24
193	WS 05	B U801 Panel Production	129	10	12
194	WS 12	B U102 Block Assembly	198	30	30
195	WS 05	A U101 Block Production	66;130	25	30
196	WS 05	B U101 Block Production	67;131	25	30
197	WS 09	A U103 Block Production	68;132	20	20
198	WS 09	B U102 Block Production	69;133	30	30
199	WS 09	A U104 Block Production	70;134	20	20



**Supplementary Materials****DOI: 10.33714/masteb.1324266**

200	WS 09	B U103 Block Production	71;135	25	25
201	WS 09	A U105 Block Production	72;136	20	20
202	WS 09	B U104 Block Production	73;137	20	20
203	WS 09	A U106 Block Production	74;138	20	20
204	WS 09	B U105 Block Production	75;139	20	20
205	WS 09	A U202 Block Production	76;140	30	30
206	WS 09	B U106 Block Production	77;141	15	15
207	WS 09	A U203 Block Production	78;142	20	20
208	WS 09	B U107 Block Production	79;143	6	6
209	WS 09	A U204 Block Production	80;144	20	20
210	WS 09	B U203 Block Production	81;145	25	25
211	WS 09	A U205 Block Production	82;146	4	4
212	WS 09	B U204 Block Production	83;147	25	25
213	WS 09	A U301 Block Production	84;148	20	20
214	WS 09	B U205 Block Production	85;149	20	20
215	WS 09	A U302 Block Production	86;150	20	20
216	WS 09	B U206 Block Production	87;151	20	20
217	WS 09	A U303 Block Production	88;152;215	20	20
218	WS 09	B U301 Block Production	89;153	20	20
219	WS 09	A U304 Block Production	90;154	10	10
220	WS 09	B U302 Block Production	91;155	20	20
221	WS 09	A U305 Block Production	92;156	20	20
222	WS 09	B U303 Block Production	93;157	20	20
223	WS 09	A U401 Block Production	94;158	20	20
224	WS 09	B U304 Block Production	95;159	20	20
225	WS 09	A U402 Block Production	96;160	6	6
226	WS 09	B U305 Block Production	97;161	20	20
227	WS 09	A U403 Block Production	98;162	25	25
228	WS 09	B U306 Block Production	99;163	20	20
229	WS 09	A U404 Block Production	100;164	20	20
230	WS 09	B U401 Block Production	101;165	20	20
231	WS 09	A U405 Block Production	102;166	20	20
232	WS 09	B U402 Block Production	103;167	20	20
233	WS 09	A U501 Block Production	104;168	20	20
234	WS 09	B U403 Block Production	105;169	20	20
235	WS 09	A U502 Block Production	106;170	20	20
236	WS 09	B U404 Block Production	107;171	20	20
237	WS 09	A U503 Block Production	108;172	20	20
238	WS 09	B U405 Block Production	109;173	20	20
239	WS 09	A U504 Block Production	110;174	20	20
240	WS 09	B U406 Block Production	111;175	20	20
241	WS 09	A U505 Block Production	112;176	20	20
242	WS 09	B U501 Block Production	113;177	20	20
243	WS 09	A U601 Block Production	114;178	10	10
244	WS 09	B U502 Block Production	115;179	4	4
245	WS 09	A U602 Block Production	116;180	20	20
246	WS 09	B U503 Block Production	117;181	15	15
247	WS 09	A U603 Block Production	118;182	20	20
248	WS 09	B U504 Block Production	119;183	20	20
249	WS 09	A U701 Block Production	120;184	20	20
250	WS 09	B U505 Block Production	121;185	20	20



251	WS 09	A U801 Block Production	122;186	10	10
252	WS 09	B U506 Block Production	123;187	20	20
253	WS 09	B U601 Block Production	124;188	10	10
254	WS 09	B U602 Block Production	125;189	20	20
255	WS 09	B U603 Block Production	126;190	20	20
256	WS 09	B U604 Block Production	127;191	20	20
257	WS 09	B U701 Block Production	128;192	20	20
258	WS 09	B U801 Block Production	129;193	10	10
259	WS 09	A B23 Module Production	197;207	30	30
260	WS 09	B B23 Module Production	200;210	30	30
261	WS 09	A B24 Module Production	199;209	30	30
262	WS 09	B B24 Module Production	202;212	30	30
263	WS 09	A B25 Module Production	201;203;211;221	30	30
264	WS 09	B B25 Module Production	204;214	30	30
265	WS 09	A B31 Module Production	213;223	30	30
266	WS 09	B B26 Module Production	206;216	30	30
267	WS 09	A B32 Module Production	225;215	30	30
268	WS 09	B B31 Module Production	218;230	30	30
269	WS 09	A B33 Module Production	217;227	30	30
270	WS 09	B B32 Module Production	220;232	30	30
271	WS 09	A B34 Module Production	219;229	30	30
272	WS 09	B B33 Module Production	222;234	30	30
273	WS 09	A B35 Module Production	231;241	30	30
274	WS 09	B B23 Module Assembly	260;194	25	28/30
275	WS 09	B B34 Module Production	224;236	30	30
276	WS 09	A B53 Module Production	245;249	30	30
277	WS 09	B B35 Module Production	226;238	30	30
278	WS 09	B B36 Module Production	228;240	30	30
279	WS 09	B B51 Module Production	248;254	30	30
280	WS 09	B B52 Module Production	250;255	30	30
281	WS 09	B B53 Module Production	252;256	30	30
282	WS 09	B B71 Module Production	257;258	30	30
283	WS 12	A U202 Block Assembly	205	30	30
284	WS 12	A U101 Block Assembly	283;195	25	25
285	WS 09	A B23 Module Assembly	259;283	25	25
286	WS 09	A B24 Module Assembly	261;285	25	25
287	WS 12	A B32 Module Assembly	283;285;267	25	25
288	WS 09	B B24 Module Assembly	262;274	25	25
289	WS 12	B B25 Module Assembly	288;264	25	25
290	WS 12	A B33 Module Assembly	287;269;285	25	25
291	WS 12	B U101 Block Assembly	196;194	25	25
292	WS 12	A B34 Module Assembly	271;290;286	25	25
293	WS 12	B B26 Module Assembly	266;289	25	25
294	WS 12	A B25 Module Assembly	263;286;292	25	25
295	WS 12	B B32 Module Assembly	194;274;270	25	28/30
296	WS 12	B B31 Module Assembly	268;291;295	25	25
297	WS 12	B B33 Module Assembly	272;274;295	25	28/30
298	WS 12	A B35 Module Assembly	239;273;294;292	25	25
299	WS 12	B B34 Module Assembly	288;297;275	25	28/30
300	WS 12	B B35 Module Assembly	277;289;299	25	28/30
301	WS 12	B B36 Module Assembly	300;293;278	25	28/30



302	WS 12	A B31 Module Assembly	265;292;284	25	25
303	WS 12	A U603 Block Assembly	247;298	5	5
304	WS 12	A U501 Block Assembly	233;287;302	20	20
305	WS 12	A U502 Block Assembly	235;287;304	20	20
306	WS 12	B B51 Module Assembly	279;297;299	25	25
307	WS 12	A U503 Block Assembly	237;305;290	20	20
308	WS 12	B B52 Module Assembly	306;300;280	25	25
309	WS 12	A U504 Block Assembly	239;307;292	20	20
310	WS 12	B B53 Module Assembly	281;308;301	25	25
311	WS 12	A U601 Block Assembly	243;304	10	10
312	WS 12	B B71 Module Assembly	306;308;282	25	25
313	WS 12	A B53 Module Assembly	276;305;307	25	25
314	WS 12	B Shaft Welding	291;194	8	8
315	WS 12	A U801 Block Assembly	251;313	10	10
316	WS 12	A Shaft Welding	284;283	8	8
317	WS 12	B U107 Block Assembly	208;301;293	10	10
318	WS 12	B U503 Block Assembly	297;246;306	15	15
319	WS 12	B U502 Block Assembly	244;295;318	4	4
320	WS 12	B U501 Module Assembly	242;296;295;319	20	20
321	WS 12	A Painting	316;315;309;311;303	10	10
322	WS 12	B U601 Block Assembly	253;320	10	10
323	WS 12	B Painting	314;317	10	10
324	WS 12	A Launching	321	75	75
325	WS 12	B Launching	310;312;322;323	75	75
326	WS 12	Finish	324;325	0	0

**Appendix 2.** The block construction activities, predecessors, and manpower values for Ships A and B.

ID	Activities	Normal Project		Crashed Project	
		Activities Durations (hour) (a, b, c, d)	Defuzzification $\tilde{X}_0(\mathbf{A})$	Activities Durations (hour) (a, b, c, d)	Defuzzification $\tilde{X}_0(\mathbf{\tilde{A}})$
1	Start	(0, 0, 0, 0)	0	(0, 0, 0, 0)	0
2	A U202 Cutting	(24, 32, 32, 40)	32	(24, 32, 32, 40)	32
3	B U102 Cutting	(24, 32, 32, 40)	32	(24, 32, 32, 40)	32
4	A U101 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
5	B U101 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
6	A U103 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
7	A U104 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
8	B U103 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
9	A U105 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
10	B U104 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
11	A U106 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
12	B U105 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
13	B U106 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
14	A U203 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
15	B U107 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
16	A U204 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
17	B U203 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
18	A U205 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
19	B U204 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
20	A U301 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
21	B U205 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
22	A U302 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
23	B U206 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
24	A U303 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
25	B U301 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
26	A U304 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
27	B U302 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
28	A U305 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
29	B U303 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
30	A U401 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
31	B U304 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
32	A U402 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
33	B U305 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
34	A U403 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
35	B U306 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
36	A U404 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
37	B U401 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
38	A U405 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
39	B U402 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
40	A U501 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
41	B U403 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
42	A U502 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
43	B U404 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
44	A U503 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
45	B U405 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
46	A U504 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
47	B U406 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
48	A U505 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
49	B U501 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
50	A U601 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
51	B U502 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16



52	A U602 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
53	B U503 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
54	A U603 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
55	B U504 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
56	A U701 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
57	B U505 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
58	A U801 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
59	B U506 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
60	B U601 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
61	B U602 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
62	B U603 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
63	B U604 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
64	B U701 Cutting	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
65	B U801 Cutting	(18, 24, 24, 30)	24	(18, 24, 24, 30)	24
66	A U101 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
67	B U101 Prefabrication	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
68	A U103 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
69	B U102 Prefabrication	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
70	A U104 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
71	B U103 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
72	A U105 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
73	B U104 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
74	A U106 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
75	B U105 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
76	A U202 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
77	B U106 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
78	A U203 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
79	B U107 Prefabrication	(40, 56, 56, 72)	56	(34, 48, 48, 62)	48
80	A U204 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
81	B U203 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
82	A U205 Prefabrication	(24, 32, 32, 40)	32	(19, 26, 26, 33)	26
83	B U204 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
84	A U301 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
85	B U205 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
86	A U302 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
87	B U206 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
88	A U303 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
89	B U301 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
90	A U304 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
91	B U302 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
92	A U305 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
93	B U303 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
94	A U401 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
95	B U304 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
96	A U402 Prefabrication	(24, 32, 32, 40)	32	(21, 27, 27, 33)	27
97	B U305 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
98	A U403 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
99	B U306 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
100	A U404 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
101	B U401 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
102	A U405 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
103	B U402 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
104	A U501 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
105	B U403 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
106	A U502 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
107	B U404 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47



108	A U503 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
109	B U405 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
110	A U504 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
111	B U406 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
112	A U505 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
113	B U501 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
114	A U601 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
115	B U502 Prefabrication	(40, 56, 56, 72)	56	(32, 45, 45, 58)	45
116	A U602 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
117	B U503 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
118	A U603 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
119	B U504 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
120	A U701 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
121	B U505 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
122	A U801 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
123	B U506 Prefabrication	(40, 56, 56, 72)	56	(33, 48, 48, 60)	47
124	B U601 Prefabrication	(12, 16, 16, 20)	16	(10, 13, 13, 16)	13
125	B U602 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
126	B U603 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
127	B U604 Prefabrication	(24, 32, 32, 40)	32	(20, 27, 27, 34)	27
128	B U701 Prefabrication	(36, 48, 48, 60)	48	(30, 40, 40, 50)	40
129	B U801 Prefabrication	(36, 48, 48, 60)	48	(30, 40, 40, 50)	40
130	A U101 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
131	B U101 Panel Production	(60, 80, 80, 100)	80	(50, 67, 67, 84)	67
132	A U103 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
133	B U102 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
134	A U104 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
135	B U103 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
136	A U105 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
137	B U104 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
138	A U106 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
139	B U105 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
140	A U202 Panel Production	(36, 48, 48, 60)	48	(30, 40, 40, 50)	40
141	B U106 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
142	A U203 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
143	B U107 Panel Production	(48, 64, 64, 80)	64	(41, 55, 55, 69)	55
144	A U204 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
145	B U203 Panel Production	(60, 80, 80, 100)	80	(50, 67, 67, 84)	67
146	A U205 Panel Production	(18, 24, 24, 30)	24	(14, 19, 19, 24)	19
147	B U204 Panel Production	(60, 80, 80, 100)	80	(50, 67, 67, 84)	67
148	A U301 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
149	B U205 Panel Production	(60, 80, 80, 100)	80	(50, 67, 67, 84)	67
150	A U302 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
151	B U206 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
152	A U303 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
153	B U301 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
154	A U304 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
155	B U302 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
156	A U305 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
157	B U303 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
158	A U401 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
159	B U304 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
160	A U402 Panel Production	(18, 24, 24, 30)	24	(15, 21, 21, 27)	21
161	B U305 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
162	A U403 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
163	B U306 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53

164	A U404 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
165	B U401 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
166	A U405 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
167	B U402 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
168	A U501 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
169	B U403 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
170	A U502 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
171	B U404 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
172	A U503 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
173	B U405 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
174	A U504 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
175	B U406 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
176	A U505 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
177	B U501 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
178	A U601 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
179	B U502 Panel Production	(48, 64, 64, 80)	64	(38, 51, 51, 64)	51
180	A U602 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
181	B U503 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
182	A U603 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
183	B U504 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
184	A U701 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
185	B U505 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
186	A U801 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
187	B U506 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
188	B U601 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
189	B U602 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
190	B U603 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
191	B U604 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
192	B U701 Panel Production	(48, 64, 64, 80)	64	(40, 53, 53, 66)	53
193	B U801 Panel Production	(18, 24, 24, 30)	24	(15, 20, 20, 25)	20
194	B U102 Block Assembly	(196, 230, 230, 270)	232	(196, 230, 230, 270)	232
195	A U101 Block Production	(255, 320, 320, 385)	320	(213, 267, 267, 321)	267
196	B U101 Block Production	(400, 480, 480, 560)	480	(333, 400, 400, 467)	400
197	A U103 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
198	B U102 Block Production	(440, 520, 520, 600)	520	(440, 520, 520, 600)	520
199	A U104 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
200	B U103 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
201	A U105 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
202	B U104 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
203	A U106 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
204	B U105 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
205	A U202 Block Production	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
206	B U106 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
207	A U203 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
208	B U107 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
209	A U204 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
210	B U203 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
211	A U205 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
212	B U204 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
213	A U301 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
214	B U205 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
215	A U302 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
216	B U206 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
217	A U303 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
218	B U301 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
219	A U304 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168



220	B U302 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
221	A U305 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
222	B U303 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
223	A U401 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
224	B U304 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
225	A U402 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
226	B U305 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
227	A U403 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
228	B U306 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
229	A U404 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
230	B U401 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
231	A U405 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
232	B U402 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
233	A U501 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
234	B U403 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
235	A U502 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
236	B U404 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
237	A U503 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
238	B U405 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
239	A U504 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
240	B U406 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
241	A U505 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
242	B U501 Block Production	(880, 1000, 1000, 1120)	1.000	(880, 1000, 1000, 1120)	1.000
243	A U601 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
244	B U502 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
245	A U602 Block Production	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
246	B U503 Block Production	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
247	A U603 Block Production	(40, 56, 56, 72)	56	(40, 56, 56, 72)	56
248	B U504 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
249	A U701 Block Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
250	B U505 Block Production	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
251	A U801 Block Production	(40, 56, 56, 72)	56	(40, 56, 56, 72)	56
252	B U506 Block Production	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
253	B U601 Block Production	(120, 160, 160, 200)	160	(120, 160, 160, 200)	160
254	B U602 Block Production	(210, 280, 280, 350)	280	(210, 280, 280, 350)	280
255	B U603 Block Production	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
256	B U604 Block Production	(280, 360, 360, 440)	360	(280, 360, 360, 440)	360
257	B U701 Block Production	(700, 800, 800, 900)	800	(700, 800, 800, 900)	800
258	B U801 Block Production	(640, 720, 720, 800)	720	(640, 720, 720, 800)	720
259	A B23 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
260	B B23 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
261	A B24 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
262	B B24 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
263	A B25 Module Production	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
264	B B25 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
265	A B31 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
266	B B26 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
267	A B32 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
268	B B31 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
269	A B33 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
270	B B32 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
271	A B34 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
272	B B33 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
273	A B35 Module Production	(90, 120, 120, 150)	120	(90, 120, 120, 150)	120
274	B B23 Module Assembly	(210, 280, 280, 350)	280	(185, 250, 250, 315)	250
				(175, 234, 234, 290)	233
275	B B34 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80



**Supplementary Materials****DOI: 10.33714/masteb.1324266**

276	A B53 Module Production	(40, 56, 56, 72)	56	(40, 56, 56, 72)	56
277	B B35 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
278	B B36 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
279	B B51 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
280	B B52 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
281	B B53 Module Production	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
282	B B71 Module Production	(18, 24, 24, 30)	24	(18, 24, 24, 30)	24
283	A U202 Block Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
284	A U101 Block Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
285	A B23 Module Assembly	(12, 16, 16, 20)	16	(12, 16, 16, 20)	16
286	A B24 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
287	A B32 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
288	B B24 Module Assembly	(200, 272, 272, 320)	264	(200, 272, 272, 320)	264
289	B B25 Module Assembly	(210, 276, 276, 330)	272	(210, 276, 276, 330)	272
290	A B33 Module Assembly	(84, 112, 112, 140)	112	(84, 112, 112, 140)	112
291	B U101 Block Assembly	(120, 160, 160, 200)	160	(120, 160, 160, 200)	160
292	A B34 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
293	B B26 Module Assembly	(210, 276, 276, 330)	272	(210, 276, 276, 330)	272
294	A B25 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
295	B B32 Module Assembly	(640, 720, 720, 800)	720	(571, 643, 643, 715) (533, 600, 600, 667)	643 600
296	B B31 Module Assembly	(640, 720, 720, 800)	720	(640, 720, 720, 800)	720
297	B B33 Module Assembly	(440, 520, 520, 600)	520	(393, 464, 464, 535) (367, 432, 432, 500)	464 433
298	A B35 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
299	B B34 Module Assembly	(200, 272, 272, 320)	264	(179, 243, 243, 286) (167, 227, 227, 266)	236 220
300	B B35 Module Assembly	(160, 200, 200, 240)	200	(143, 179, 179, 215) (134, 167, 167, 200)	179 167
301	B B36 Module Assembly	(210, 280, 280, 350)	280	(185, 250, 250, 315) (175, 234, 234, 290)	250 233
302	A B31 Module Assembly	(136, 168, 168, 200)	168	(136, 168, 168, 200)	168
303	A U603 Block Assembly	(7, 8, 8, 9)	8	(7, 8, 8, 9)	8
304	A U501 Block Assembly	(84, 112, 112, 140)	112	(84, 112, 112, 140)	112
305	A U502 Block Assembly	(84, 112, 112, 140)	112	(84, 112, 112, 140)	112
306	B B51 Module Assembly	(120, 160, 160, 200)	160	(120, 160, 160, 200)	160
307	A U503 Block Assembly	(84, 112, 112, 140)	112	(84, 112, 112, 140)	112
308	B B52 Module Assembly	(160, 200, 200, 240)	200	(160, 200, 200, 240)	200
309	A U504 Block Assembly	(84, 112, 112, 140)	112	(84, 112, 112, 140)	112
310	B B53 Module Assembly	(255, 320, 320, 385)	320	(255, 320, 320, 385)	320
311	A U601 Block Assembly	(40, 56, 56, 72)	56	(40, 56, 56, 72)	56
312	B B71 Module Assembly	(190, 240, 240, 290)	240	(190, 240, 240, 290)	240
313	A B53 Module Assembly	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
314	B Shaft Welding	(60, 80, 80, 100)	80	(60, 80, 80, 100)	80
315	A U801 Block Assembly	(60, 80, 80, 100)	32	(60, 80, 80, 100)	32
316	A Shaft Welding	(320, 400, 400, 480)	80	(320, 400, 400, 480)	80
317	B U107 Block Assembly	(60, 80, 80, 100)	400	(60, 80, 80, 100)	400
318	B U503 Block Assembly	(30, 40, 40, 50)	80	(30, 40, 40, 50)	80
319	B U502 Block Assembly	(160, 200, 200, 240)	40	(160, 200, 200, 240)	40
320	B U501 Module Assembly	(180, 204, 204, 240)	200	(180, 204, 204, 240)	200
321	A Painting	(30, 40, 40, 50)	208	(30, 40, 40, 50)	208
322	B U601 Block Assembly	(60, 80, 80, 100)	40	(60, 80, 80, 100)	40
323	B Painting	(7, 8, 8, 9)	80	(7, 8, 8, 9)	80
324	A Launching	(7, 8, 8, 9)	8	(7, 8, 8, 9)	8
325	B Launching	(0, 0, 0, 0)	8	(0, 0, 0, 0)	8
326	Finish	(60, 80, 80, 100)	0	(60, 80, 80, 100)	0

