

## BAB V

### KESIMPULAN DAN SARAN

#### 5.1. Kesimpulan

Kesimpulan yang dapat ditarik melalui analisis data dan pembahasan, adalah:

- a. Berdasarkan waktu pekerja yang didapatkan menggunakan metode *Time Study*, rata - rata tingkat efektifitas pekerja yaitu sebesar 98,45 %.
- b. Waktu tidak produktif untuk pekerjaan penulangan balok adalah 1,37 %, pemasangan bekesting balok adalah 1,12 %, dan pengecoran balok adalah 2,16 %.
- c. Berdasarkan implementasi *crew balance chart* dapat disimpulkan bahwa dari seluruh proses kegiatan pekerjaan balok, yang tidak efisien adalah kegiatan pengecoran balok terutama dari jumlah pekerja yang terlibat. Khusus dalam pekerjaan pengecoran balok, jumlah pekerja dapat dikurangi dari 4 pekerja menjadi 3.

#### 5.2. Saran

Saran yang ingin disampaikan dari penelitian ini adalah:

- a. Kontraktor hendaknya selalu melakukan pengawasan ketika proses pekerjaan pada proyek dimulai.
- b. Menyediakan *time schedule* , agar pekerja atau tukang dapat menyelesaikan pekerjaan tepat waktu.

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**Lampiran 1. Hasil Pengamatan Time Study Form**

**DATA TIME STUDY FORM  
PROYEK VIVO APARTMENT**

- Penulangan balok pada portal 1

<b>Date</b>	13-Mar-2014			
<b>Project Operation</b>	Vivo Apartement		<b>Study No. Observer</b>	1
<b>Element Operation</b>	Penulangan Portal 1		<b>Nama Pekerja</b>	Rahmad
<b>Time Started</b>	10:30:00		<b>Time Finished</b>	17:30:00
<b>Details Description</b>	<b>Rating</b>	<b>WR</b>	<b>OB</b>	<b>BT</b>
Mulai	100	0:00:00	0:30:55	00:30.9
Diam saja	100	0:30:55	0:00:24	00:00.4
Mulai kerja	100	0:31:19	0:52:47	00:52.8
Diam saja	100	1:24:06	0:00:50	00:00.8
Mulai kerja	100	1:24:56	2:13:09	02:13.1
Diam saja	100	3:38:05	0:01:02	00:01.0
Mulai kerja	100	3:39:07	2:20:53	02:20.9
Selesai		6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

<b>Date</b>	13-Mar-2014			
<b>Project Operation</b>	Vivo Apartement		<b>Study No. Observer</b>	2
<b>Element Operation</b>	Penulangan Portal 1		<b>Nama Pekerja</b>	Heru
<b>Time Started</b>	10:30:00		<b>Time Finished</b>	17:30:00
<b>Details Description</b>	<b>Rating</b>	<b>WR</b>	<b>OB</b>	<b>BT</b>
Mulai	100	0:00:00	0:00:46	00:00.8
Diam saja	100	0:00:46	0:00:23	00:00.4
Mulai kerja	100	0:01:09	0:00:46	00:00.8
Diam saja	100	0:01:55	0:00:18	00:00.3
Mulai kerja	100	0:02:13	0:38:08	00:38.1
Diam saja	100	0:40:21	0:01:49	00:01.8
Mulai kerja	100	0:42:10	1:53:07	01:53.1
Diam saja	100	2:35:17	0:01:09	00:01.1
Mulai kerja	100	2:36:26	2:03:57	02:03.9
Diam saja	100	4:40:23	0:01:56	00:01.9
Mulai kerja	100	4:42:19	1:17:41	01:17.7
Selesai		6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	3
Element Operation	Penulangan Portal 1		Nama Pekerja	Sigit
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:21:36	00:21.6
Diam saja	100	0:21:36	0:01:18	00:01.3
Mulai kerja	100	0:22:54	0:17:27	00:17.5
Diam saja	100	0:40:21	0:01:49	00:01.8
Mulai kerja	100	0:42:10	2:13:05	02:13.1
Diam saja	100	2:55:15	0:01:11	00:01.2
Mulai kerja	100	2:56:26	1:28:57	01:29.0
Diam saja	100	4:25:23	0:00:17	00:00.3
Mulai kerja	100	4:25:40	1:34:20	01:34.3
Selesai		6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	4
Element Operation	Penulangan Portal 1		Nama Pekerja	Andrianto
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:25:32	01:25.5
Diam saja	100	1:25:32	0:01:23	00:01.4
Mulai kerja	100	1:26:55	1:10:31	01:10.5
Diam saja	100	2:37:26	0:01:24	00:01.4
Mulai kerja	100	2:38:50	1:23:25	01:23.4
Diam saja	100	4:02:15	0:00:58	00:01.0
Mulai kerja	100	4:03:13	1:56:47	01:56.8
Selesai	100	6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	5
Element Operation	Penulangan Portal 1		Nama Pekerja	Iswanto
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:45:03	00:45.0
Diam saja	100	0:45:03	0:01:20	00:01.3
Mulai kerja	100	0:46:23	0:16:33	00:16.6
Diam saja	100	1:02:56	0:00:49	00:00.8
Mulai kerja	100	1:03:45	0:53:33	00:53.6
Diam saja	100	1:57:18	0:01:36	00:01.6
Mulai kerja	100	1:58:54	1:36:23	01:36.4
Diam saja	100	3:35:17	0:00:48	00:00.8
Mulai kerja	100	3:36:05	2:23:55	02:23.9
Selesai		6:00:00	6:00:00	
<b>Total</b>				06:00.0

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	6
Element Operation	Penulangan Portal 1		Nama Pekerja	Dwi
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:23:30	01:23.5
Diam saja	100	1:23:30	0:00:58	00:01.0
Mulai kerja	100	1:24:28	1:31:36	01:31.6
Diam saja	100	2:56:04	0:01:58	00:02.0
Mulai kerja	100	2:58:02	1:45:07	01:45.1
Diam saja	100	4:43:09	0:00:47	00:00.8
Mulai kerja	100	4:43:56	1:16:04	01:16.1
Selesai		6:00:00	6:00:00	
<b>Total</b>				06:00.0

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	7
Element Operation	Penulangan Portal 1		Nama Pekerja	Indra
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:45:35	01:45.6
Diam saja	100	1:45:35	0:00:48	00:00.8
Mulai kerja	100	1:46:23	1:35:00	01:35.0
Diam saja	100	3:21:23	0:01:06	00:01.1
Mulai kerja	100	3:22:29	1:33:42	01:33.7
Diam saja	100	4:56:11	0:01:06	00:01.1
Mulai kerja	100	4:57:17	1:02:43	01:02.7
Selesai		6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

Date	13-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	8
Element Operation	Penulangan Portal 1		Nama Pekerja	Fajar
Time Started	10:30:00		Time Finished	17:30:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:14:56	01:14.9
Diam saja	100	1:14:56	0:00:49	00:00.8
Mulai kerja	100	1:15:45	1:18:22	01:18.4
Diam saja	100	2:34:07	0:01:10	00:01.2
Mulai kerja	100	2:35:17	1:52:02	01:52.0
Diam saja	100	4:27:19	0:01:03	00:01.1
Mulai kerja	100	4:28:22	0:12:01	00:12.0
Diam saja	100	4:40:23	0:01:31	00:01.5
Mulai kerja	100	4:41:54	1:18:06	01:18.1
Selesai		6:00:00	6:00:00	
<b>Total</b>				<b>06:00.0</b>

- Penulangan balok pada portal 2

Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	1
Element Operation	Penulangan Portal 2		Nama Pekerja	Teguh
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:31:46	01:31.8
Diam saja	100	1:31:46	0:01:04	00:01.1
Mulai kerja	100	1:32:50	2:13:06	02:13.1
Diam saja	100	3:45:56	0:00:47	00:00.8
Mulai kerja	100	3:46:43	1:33:34	01:33.6
Diam saja	100	5:20:17	0:01:36	00:01.6
Mulai kerja	100	5:21:53	2:08:07	02:08.1
Selesai		7:30:00	7:30:00	
<b>Total</b>				<b>07:30.0</b>

Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	2
Element Operation	Penulangan Portal 2		Nama Pekerja	Joko
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:27:32	01:27.5
Diam saja	100	1:27:32	0:01:20	00:01.3
Mulai kerja	100	1:28:52	1:49:02	01:49.0
Diam saja	100	3:17:54	0:00:41	00:00.7
Mulai kerja	100	3:18:35	1:11:19	01:11.3
Diam saja	100	4:29:54	0:01:18	00:01.3
Mulai kerja	100	4:31:12	0:58:42	00:58.7
Diam saja	100	5:29:54	0:01:18	00:01.3
Mulai kerja	100	5:31:12	1:58:48	01:58.8
Selesai		7:30:00	7:30:00	
<b>Total</b>				<b>07:30.0</b>

Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	3
Element Operation	Penulangan Portal 2		Nama Pekerja	Hidayat
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:45:31	01:45.5
Diam saja	100	1:45:31	0:01:16	00:01.3
Mulai kerja	100	1:46:47	0:38:27	00:38.5
Diam saja	100	2:25:14	0:00:59	00:01.0
Mulai kerja	100	2:26:13	2:54:04	02:54.1
Diam saja	100	5:20:17	0:01:36	00:01.6
Mulai kerja	100	5:21:53	1:13:24	01:13.4
Diam saja	100	6:35:17	0:01:39	00:01.6
Mulai kerja	100	6:36:56	0:53:04	00:53.1
Selesai		7:30:00	7:30:00	
<b>Total</b>				<b>07:30.0</b>

Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	4
Element Operation	Penulangan Portal 2		Nama Pekerja	Budi
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:47:32	01:47.5
Diam saja	100	1:47:32	0:01:25	00:01.4
Mulai kerja	100	1:48:57	0:56:16	00:56.3
Diam saja	100	2:45:13	0:01:40	00:01.7
Mulai kerja	100	2:46:53	1:26:24	01:26.4
Diam saja	100	4:13:17	0:01:17	00:01.3
Mulai kerja	100	4:14:34	1:08:31	01:08.5
Diam saja	100	5:23:05	0:01:44	00:01.7
Mulai kerja	100	5:24:49	1:11:24	01:11.4
Diam saja	100	6:36:13	0:00:59	00:01.0
Mulai kerja	100	6:37:12	0:52:48	00:52.8
Selesai		7:30:00	7:30:00	
<b>Total</b>				<b>07:30.0</b>



Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	5
Element Operation	Penulangan Portal 2		Nama Pekerja	Hadi
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:52:13	00:52.2
Diam saja	100	0:52:13	0:01:08	00:01.1
Mulai kerja	100	0:53:21	1:50:31	01:50.5
Diam saja	100	2:43:52	0:00:51	00:00.9
Mulai kerja	100	2:44:43	2:19:24	02:19.4
Diam saja	100	5:04:07	0:17:46	00:17.8
Mulai kerja	100	5:21:53	1:05:17	01:05.3
Diam saja	100	6:27:10	0:01:05	00:01.1
Mulai kerja	100	6:28:15	1:01:45	01:01.7
Selesai		7:30:00	7:30:00	
<b>Total</b>				07:30.0

Date	14-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	6
Element Operation	Penulangan Portal 2		Nama Pekerja	Arif
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:52:19	01:52.3
Diam saja	100	1:52:19	0:01:30	00:01.5
Mulai kerja	100	1:53:49	1:20:35	01:20.6
Diam saja	100	3:14:24	0:01:19	00:01.3
Mulai kerja	100	3:15:43	2:02:46	02:02.8
Diam saja	100	5:18:29	0:01:19	00:01.3
Mulai kerja	100	5:19:48	1:09:16	01:09.3
Diam saja	100	6:29:04	0:01:05	00:01.1
Mulai kerja	100	6:30:09	0:59:51	00:59.9
Selesai		7:30:00	7:30:00	
<b>Total</b>				07:30.0

Date	14-Mar-2014			
Project Operation	Vivo Apartement			7
Element Operation	Penulangan Portal 2			Wahyu
Time Started	8:30:00		Time Finished	16:00:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:13:56	01:13.9
Diam saja	100	1:13:56	0:00:46	00:00.8
Mulai kerja	100	1:14:42	1:39:52	01:39.9
Diam saja	100	2:54:34	0:00:51	00:00.9
Mulai kerja	100	2:55:25	1:58:48	01:58.8
Diam saja	100	4:54:13	0:01:33	00:01.5
Mulai kerja	100	4:55:46	1:16:48	01:16.8
Diam saja	100	6:12:34	0:01:22	00:01.4
Mulai kerja	100	6:13:56	1:16:04	01:16.1
Selesai		7:30:00	7:30:00	
<b>Total</b>				<b>07:30.0</b>

- Pemasangan bekesting balok pada portal 1

Date	26-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	1
Element Operation	Bekesting Portal 1		Nama Pekerja	Slamet
Time Started	7:35:00		Time Finished	11:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:45:53	01:45.9
Diam saja	100	1:45:53	0:01:03	00:01.1
Mulai kerja	100	1:46:56	1:59:47	01:59.8
Diam saja	100	3:46:43	0:01:12	00:01.2
Mulai kerja	100	3:47:55	0:12:05	00:12.1
Selesai		4:00:00	4:00:00	
<b>Total</b>				<b>04:00.0</b>

Date	26-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	2
Element Operation	Bekesting Portal 1		Nama Pekerja	Tardi
Time Started	7:35:00		Time Finished	11:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	2:04:24	02:04.4
Diam saja	100	2:04:24	0:01:11	00:01.2
Mulai kerja	100	2:05:35	1:30:12	01:30.2
Diam saja	100	3:35:47	0:01:12	00:01.2
Mulai kerja	100	3:36:59	0:23:01	00:23.0
Selesai		4:00:00	4:00:00	
<b>Total</b>				<b>04:00.0</b>

Date	26-Mar-2014			
<b>Project Operation</b>	Vivo Apartement	<b>Study No. Observer</b>		3
<b>Element Operation</b>	Bekesting Portal 1	<b>Nama Pekerja</b>		Karman
<b>Time Started</b>	7:35:00		<b>Time Finished</b>	11:35:00
<b>Details Description</b>	<b>Rating</b>	<b>WR</b>	<b>OB</b>	<b>BT</b>
Mulai	100	0:00:00	1:10:23	01:10.4
Diam saja	100	1:10:23	0:01:17	00:01.3
Mulai kerja	100	1:11:40	1:02:30	01:02.5
Diam saja	100	2:14:10	0:01:40	00:01.7
Mulai kerja	100	2:15:50	1:13:52	01:13.9
Diam saja	100	3:29:42	0:01:06	00:01.1
Mulai kerja	100	3:30:48	0:29:12	00:29.2
Selesai		4:00:00	4:00:00	
<b>Total</b>				<b>04:00.0</b>

Date	26-Mar-2014			
<b>Project Operation</b>	Vivo Apartement	<b>Study No. Observer</b>		4
<b>Element Operation</b>	Bekesting Portal 1	<b>Nama Pekerja</b>		Dimas
<b>Time Started</b>	7:35:00		<b>Time Finished</b>	11:35:00
<b>Details Description</b>	<b>Rating</b>	<b>WR</b>	<b>OB</b>	<b>BT</b>
Mulai	100	0:00:00	1:31:43	01:31.7
Diam saja	100	1:31:43	0:01:16	00:01.3
Mulai kerja	100	1:32:59	1:37:22	01:37.4
Diam saja	100	3:10:21	0:00:45	00:00.8
Mulai kerja	100	3:11:06	0:48:54	00:48.9
Selesai		4:00:00	4:00:00	
<b>Total</b>				<b>04:00.0</b>

Date	26-Mar-2014			
<b>Project Operation</b>	Vivo Apartement	<b>Study No. Observer</b>		5
<b>Element Operation</b>	Bekesting Portal 1	<b>Nama Pekerja</b>		Sudi
<b>Time Started</b>	7:35:00		<b>Time Finished</b>	11:35:00
<b>Details Description</b>	<b>Rating</b>	<b>WR</b>	<b>OB</b>	<b>BT</b>
Mulai	100	0:00:00	0:53:34	00:53.6
Diam saja	100	0:53:34	0:01:14	00:01.2
Mulai kerja	100	0:54:48	1:10:07	01:10.1
Diam saja	100	2:04:55	0:01:23	00:01.4
Mulai kerja	100	2:06:18	1:20:20	01:20.3
Diam saja	100	3:26:38	0:00:40	00:00.7
Mulai kerja	100	3:27:18	0:32:42	00:32.7
Selesai		4:00:00	4:00:00	
<b>Total</b>				<b>04:00.0</b>

- Pemasangan bekesting balok pada portal 2

Date	26-Mar-2014			
Project Operation	Vivo Apartement	Study No. Observer	1	
Element Operation	Bekesting Portal 2	Nama Pekerja	Haryanto	
Time Started	8:20:00		Time Finished	13:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:58:17	00:58.3
Diam saja	100	0:58:17	0:01:18	00:01.3
Mulai kerja	100	0:59:35	0:50:29	00:50.5
Diam saja	100	1:50:04	0:01:32	00:01.5
Mulai kerja	100	1:51:36	0:56:22	00:56.4
Diam saja	100	2:47:58	0:00:48	00:00.8
Mulai kerja	100	2:48:46	1:56:14	01:56.2
Selesai		4:45:00	4:45:00	
<b>Total</b>				<b>04:45.0</b>

Date	26-Mar-2014			
Project Operation	Vivo Apartement	Study No. Observer	2	
Element Operation	Bekesting Portal 2	Nama Pekerja	Bagus	
Time Started	8:20:00		Time Finished	13:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:43:52	01:43.9
Diam saja	100	1:43:52	0:01:06	00:01.1
Mulai kerja	100	1:44:58	1:07:18	01:07.3
Diam saja	100	2:52:16	0:00:53	00:00.9
Mulai kerja	100	2:53:09	1:51:51	01:51.9
Selesai		4:45:00	4:45:00	
<b>Total</b>				<b>04:45.0</b>

Date	26-Mar-2014			
Project Operation	Vivo Apartement	Study No. Observer	3	
Element Operation	Bekesting Portal 2	Nama Pekerja	Yusuf	
Time Started	8:20:00		Time Finished	13:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:32:15	01:32.3
Diam saja	100	1:32:15	0:01:11	00:01.2
Mulai kerja	100	1:33:26	1:14:29	01:14.5
Diam saja	100	2:47:55	0:00:54	00:00.9
Mulai kerja	100	2:48:49	0:49:55	00:49.9
Diam saja	100	3:38:44	0:01:29	00:01.5
Mulai kerja	100	3:40:13	1:04:47	01:04.8
Selesai		4:45:00	4:45:00	
<b>Total</b>				<b>04:45.0</b>

Date	26-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	4
Element Operation	Bekesting Portal 2		Nama Pekerja	Subarjo
Time Started	8:20:00		Time Finished	13:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:56:05	00:56.1
Diam saja	100	0:56:05	0:01:12	00:01.2
Mulai kerja	100	0:57:17	0:55:23	00:55.4
Diam saja	100	1:52:40	0:00:30	00:00.5
Mulai kerja	100	1:53:10	0:52:10	00:52.2
Diam saja	100	2:45:20	0:00:53	00:00.9
Mulai kerja	100	2:46:13	1:02:01	01:02.0
Diam saja	100	3:48:14	0:01:22	00:01.4
Mulai kerja	100	3:49:36	0:55:24	00:55.4
Selesai		4:45:00	4:45:00	
<b>Total</b>				<b>04:45.0</b>

Date	26-Mar-2014			
Project Operation	Vivo Apartement		Study No. Observer	5
Element Operation	Bekesting Portal 2		Nama Pekerja	Wakidi
Time Started	8:20:00		Time Finished	13:35:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	1:48:10	01:48.2
Diam saja	100	1:48:10	0:00:55	00:00.9
Mulai kerja	100	1:49:05	1:58:36	01:58.6
Diam saja	100	3:47:41	0:01:16	00:01.3
Mulai kerja	100	3:48:57	0:56:03	00:56.0
Selesai		4:45:00	4:45:00	
<b>Total</b>				<b>04:45.0</b>

- Pengecoran balok pada portal 1

Date	1-Apr-2014			
Project Operation	Vivo Apartement		Study No. Observer	1
Element Operation	Pengecoran Portal 1		Nama Pekerja	Cahyo
Time Started	8:00:00		Time Finished	9:45:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:35:11	00:35.2
Diam saja	100	0:35:11	0:01:02	00:01.0
Mulai kerja	100	0:36:13	0:36:34	00:36.6
Diam saja	100	1:12:47	0:00:45	00:00.7
Mulai kerja	100	1:13:32	0:31:28	00:31.5
Selesai		1:45:00	1:45:00	
<b>Total</b>				<b>01:45.0</b>

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No. Observer		2
Element Operation	Pengecoran Portal 1	Nama Pekerja		Yapto
Time Started	8:00:00		Time Finished	
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:41:11	00:41.2
Diam saja	100	0:41:11	0:00:59	00:01.0
Mulai kerja	100	0:42:10	0:32:52	00:32.9
Diam saja	100	1:15:02	0:01:30	00:01.5
Mulai kerja	100	1:16:32	0:28:28	00:28.5
Selesai		1:45:00	1:45:00	
<b>Total</b>				<b>01:45.0</b>

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No. Observer		3
Element Operation	Pengecoran Portal 1	Nama Pekerja		Dody
Time Started	8:00:00		Time Finished	
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:31:51	00:31.9
Diam saja	100	0:31:51	0:00:26	00:00.4
Mulai kerja	100	0:32:17	0:33:17	00:33.3
Diam saja	100	1:05:34	0:01:24	00:01.4
Mulai kerja	100	1:06:58	0:20:04	00:20.1
Diam saja	100	1:27:02	0:00:59	00:01.0
Mulai kerja	100	1:28:01	0:16:59	00:17.0
Selesai		1:45:00	1:45:00	
<b>Total</b>				<b>01:45.0</b>

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No. Observer		4
Element Operation	Pengecoran Portal 1	Nama Pekerja		Indra
Time Started	8:00:00		Time Finished	
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:42:51	00:42.9
Diam saja	100	0:42:51	0:00:32	00:00.5
Mulai kerja	100	0:43:23	0:33:39	00:33.6
Diam saja	100	1:17:02	0:00:59	00:01.0
Mulai kerja	100	1:18:01	0:26:59	00:27.0
Selesai		1:45:00	1:45:00	
<b>Total</b>				<b>01:45.0</b>

- Pengecoran balok pada portal 2

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No.	Observer	1
Element Operation	Pengecoran Portal 2	Nama Pekerja	Rahmad	
Time Started	10:00:00		Time Finished	12:15:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:25:11	00:25.2
Diam saja	100	0:25:11	0:01:32	00:01.5
Mulai kerja	100	0:26:43	0:44:04	00:44.1
Diam saja	100	1:10:47	0:01:06	00:01.1
Mulai kerja	100	1:11:53	0:20:54	00:20.9
Diam saja	100	1:32:47	0:01:04	00:01.1
Mulai kerja	100	1:33:51	0:41:09	00:41.1
Selesai		2:15:00	2:15:00	
<b>Total</b>				02:15.0

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No.	Observer	2
Element Operation	Pengecoran Portal 2	Nama Pekerja	Teguh	
Time Started	10:00:00		Time Finished	12:15:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:34:11	00:34.2
Diam saja	100	0:34:11	0:01:40	00:01.7
Mulai kerja	100	0:35:51	0:52:40	00:52.7
Diam saja	100	1:28:31	0:00:46	00:00.8
Mulai kerja	100	1:29:17	0:45:43	00:45.7
Selesai		2:15:00	2:15:00	
<b>Total</b>				02:15.0

Date	1-Apr-2014			
Project Operation	Vivo Apartement	Study No.	Observer	3
Element Operation	Pengecoran Portal 2	Nama Pekerja	Budi	
Time Started	10:00:00		Time Finished	12:15:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:33:26	00:33.4
Diam saja	100	0:33:26	0:00:44	00:00.7
Mulai kerja	100	0:34:10	0:44:21	00:44.4
Diam saja	100	1:18:31	0:01:12	00:01.2
Mulai kerja	100	1:19:43	0:25:38	00:25.6
Diam saja	100	1:45:21	0:00:48	00:00.8
Mulai kerja	100	1:46:09	0:28:51	00:28.9
Selesai		2:15:00	2:15:00	
<b>Total</b>				02:15.0

Date	1-Apr-2014			
Project Operation	Vivo Apartement		Study No. Observer	4
Element Operation	Pengecoran Portal 2		Nama Pekerja	Joko
Time Started	10:00:00		Time Finished	12:15:00
Details Description	Rating	WR	OB	BT
Mulai	100	0:00:00	0:27:35	00:27.6
Diam saja	100	0:27:35	0:01:15	00:01.3
Mulai kerja	100	0:28:50	0:41:41	00:41.7
Diam saja	100	1:10:31	0:00:34	00:00.6
Mulai kerja	100	1:11:05	0:23:16	00:23.3
Diam saja	100	1:34:21	0:01:34	00:01.6
Mulai kerja	100	1:35:55	0:39:05	00:39.1
Selesai		2:15:00	2:15:00	
<b>Total</b>				<b>02:15.0</b>



## DATA TIME STUDY ABSTRACT SHEET

### PROYEK VIVO APARTMENT

Project Operation	Pengerjaan Balok Portal 1			
Study No. Observer	1			
Elements	Basic Times	No	Total	av BT
Pemasangan Tulangan	Rahmad	1	06:00.0	06:00.0
	Heru		06:00.0	
	Sigit		06:00.0	
	Andrianto		06:00.0	
	Iswanto		06:00.0	
	Dwi		06:00.0	
	Indra		06:00.0	
	Fajar		06:00.0	
Pemasangan Bekisting	Slamet	2	04:00.0	04:00.0
	Tardi		04:00.0	
	Karman		04:00.0	
	Dimas		04:00.0	
	Sudi		04:00.0	
Pengecoran Beton	Cahyo	3	01:45.0	01:45.0
	Yapto		01:45.0	
	Dody		01:45.0	
	Indra		01:45.0	

Project Operation	Pengerjaan Balok Portal 2			
Study No. Observer	2			
Elements	Basic Times	No	Total	av BT
Pemasangan Tulangan	Teguh	1	07:30.0	07:30.0
	Joko		07:30.0	
	Hidayat		07:30.0	
	Budi		07:30.0	
	Hadi		07:30.0	
	Arif		07:30.0	
	Wahyu		07:30.0	
Pemasangan Bekisting	Haryanto	2	04:45.0	04:45.0
	Bagus		04:45.0	
	Yusuf		04:45.0	
	Subarjo		04:45.0	
	Wakidi		04:45.0	
Pengecoran Beton	Rahmad	3	02:15.0	02:15.0
	Teguh		02:15.0	
	Budi		02:15.0	
	Joko		02:15.0	

## DATA STANDART TIME SUMMARY SHEET

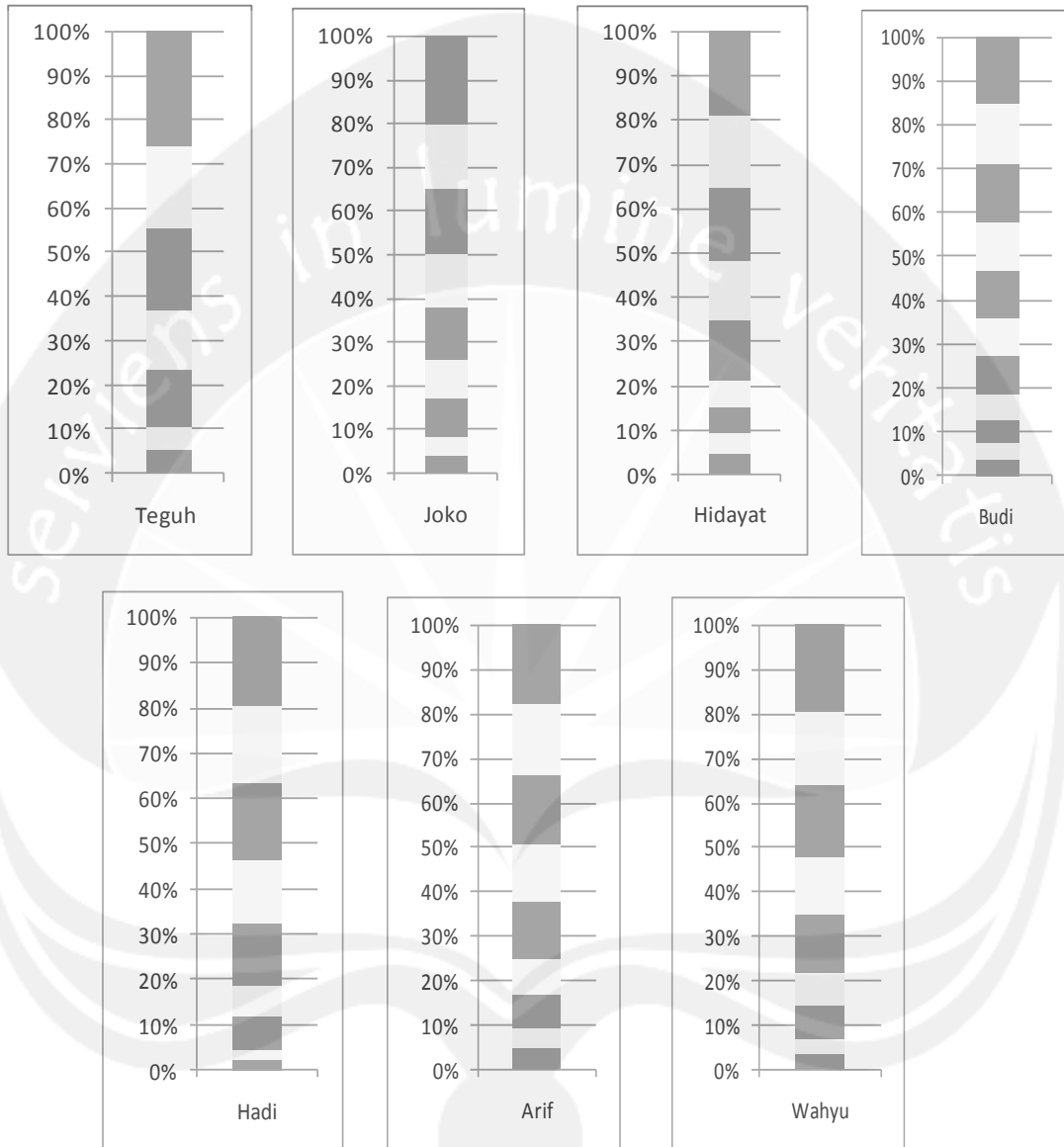
### PROYEK VIVO APARTMENT

Standard Time Summary Sheet		Pengerjaan Balok Portal 1										
Element	Basic Time	%relaxation						% Con	Total %	ST	Q	Unit ST
		S	P	A	C	E	M					
Pemasangan Tulangan	06:00.0	8	2	0	35	3	5	5	58	03:28.8	1	03:28.8
Pemasangan Bekisting	04:00.0	8	4	0	8	7	0	5	32	01:16.8	1	01:16.8
Pengecoran Beton	01:45.0	8	1	1	25	2	3	5	45	00:47.2	1	00:47.2

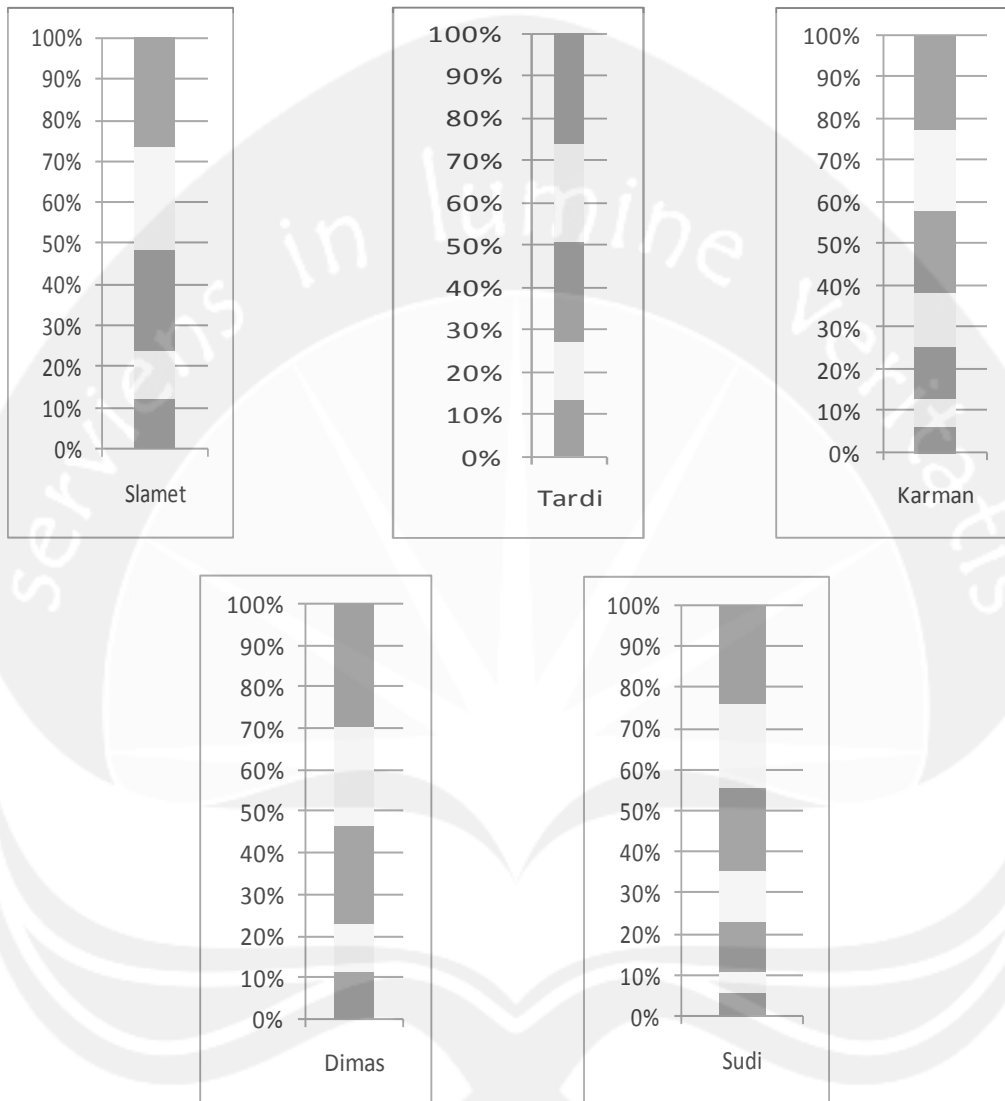
Standard Time Summary Sheet		Pengerjaan Balok Portal 2										
Element	Basic Time	%relaxation						% Con	Total %	ST	Q	Unit ST
		S	P	A	C	E	M					
Pemasangan Tulangan	07:30.0	8	3	1	25	3	5	5	50	03:45.0	1	03:45.0
Pemasangan Bekisting	04:45.0	8	4	0	8	7	0	5	32	01:31.2	1	01:31.2
Pengecoran Beton	02:15.0	8	1	1	25	2	3	5	45	01:00.7	1	01:00.7



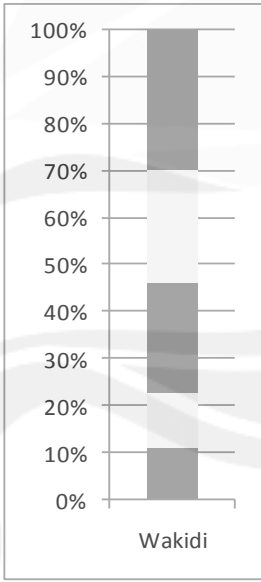
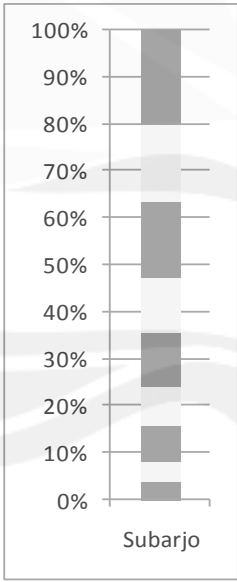
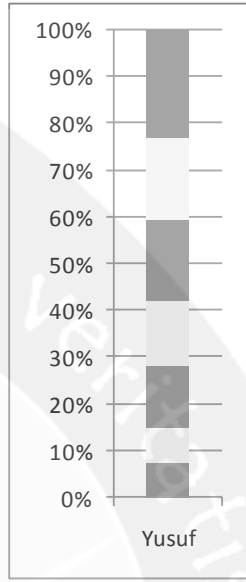
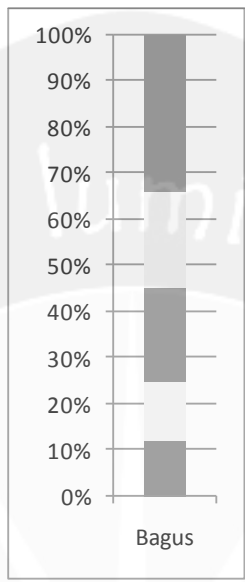
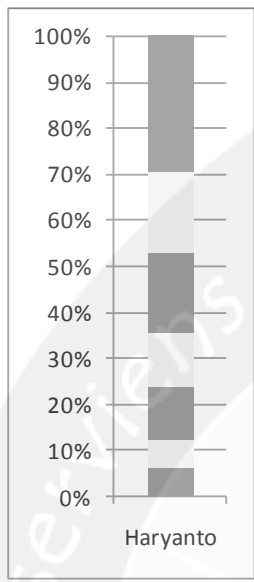
- **Penulangan balok pada portal 2**



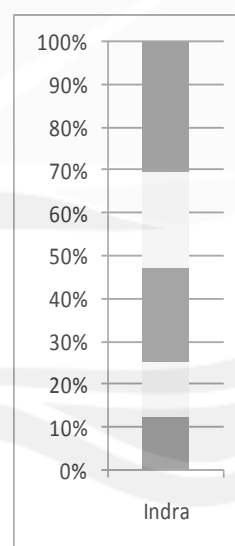
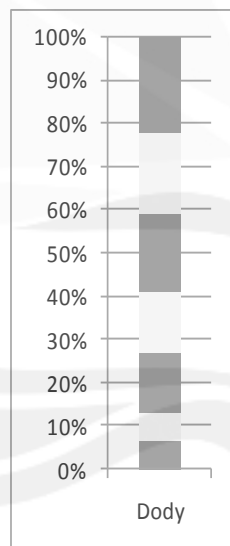
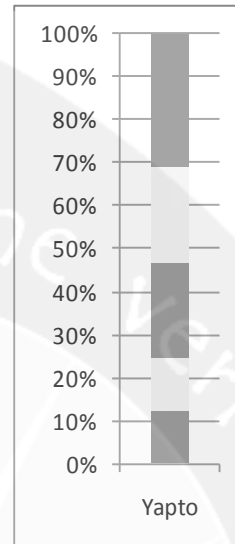
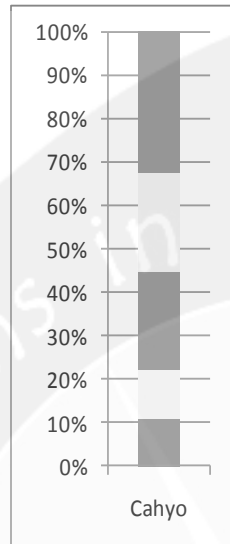
- **Pemasangan bekesting balok pada portal 1**



- **Pemasangan bekesting balok pada portal 2**



- **Pengecoran balok pada portal 1**





- **Pengecoran balok pada portal 2**

