

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

Berdasarkan penelitian dan analisis yang telah dilakukan dapat disimpulkan bahwa dengan menerapkan sistem penjadwalan dengan *forward scheduling* prioritas EDD (*Earliest Due Date*) dengan algoritma penjadwalan pada gambar 5.1, algoritma alokasi mesin *warping* pada gambar 5.2 dan algoritma alokasi mesin *knitting* pada gambar 5.3, maka jadwal yang dihasilkan dapat mengurangi *tardiness* dan jumlah job yang *tardy* serta meminimasi *WIP*. Hasil pengujian algoritma dapat dilihat pada lampiran 6.

6.2. Saran

Untuk penelitian selanjutnya dapat dilakukan penyusunan sistem penjadwalan untuk proses selanjutnya setelah kain *grey* jadi yaitu proses *dyeing* dan *finishing*. Penelitian lain yang dapat dilakukan adalah penjadwalan dengan menggunakan prioritas lain misalnya prioritas FCFS (*First Come First Serve*) atau SPT (*Shortest Processing Time*) sehingga didapatkan perbandingan dari masing-masing jadwal yang dihasilkan.

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Lampiran 3 Penjadwalan *Knitting* sebelum penyesuaian

jam 0 : 1/7/2009

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	sisa benang		kapasitas/hari/mesin (kap)			waktu selesai warping	no mesin	waktu mulai	waktu set up	waktu proses (Wp)	waktu selesai	due date	yard (Y)	Keterangan	Nilai tardiness
				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
1/6/2009	1/13/2009	PC 457B5 F-58"	953				248		35.7					96				
									35.7	19	35.7	3	92.27	130.94	120	953	Tardiness	10.94
1/6/2009	1/13/2009	PC 456 A2-47"	4472			173	216	302	62.0					96				
									35.3	9	35.3	3	59.18	97.51	96	745	Tardiness	1.51
									40.7	10	40.7	3	59.18	102.85	96	745	Tardiness	6.85
									46.0	11	46.0	3	59.18	108.18	96	745	Tardiness	12.18
									51.3	12	51.3	3	59.18	113.51	96	745	Tardiness	17.51
									56.7	13	56.7	3	59.18	118.85	96	745	Tardiness	22.85
									62.0	14	62.0	3	59.18	124.18	96	745	Tardiness	28.18
																4472		
1/6/2009	1/20/2009	22171-60"	4487			315	394	551	55.0					264				
									32.6	5	32.6	3	68.38	103.94	264	1122	Earliness	
									40.1	6	40.1	3	68.38	111.49	264	1122	Earliness	
									47.7	7	47.7	3	68.38	119.05	264	1122	Earliness	
									55.2	8	55.2	3	68.38	126.60	264	1122	Earliness	
																4487		
1/9/2009	1/19/2009	PC 456 A2-47"	1000			173	216	302	96.7					240				
									91.3	9	91.3	3	39.70	134.03	240	500	Earliness	
									96.7	10	96.7	3	39.70	139.37	240	500	Earliness	
																1000		
1/9/2009	1/19/2009	PC 475A-66"	3329			412	515		110.9	1	110.9	3	155.19	269.08	240	3329	Tardiness	29.08
1/9/2009	1/19/2009	2357-72"	1230				432		112.0	3	112.0	3	68.33	183.33	240	1230	Earliness	
1/9/2009	2/2/2009	PC 460C-58	2300 1404	896	*	268 268	335 335	469 469	86.0 101.3 101.3	11 12	86.0 101.3 101.3	3 3 3	45.85 71.85	134.85 176.15	576 576	896 1404 2300	Earliness Earliness	
1/9/2009	2/2/2009	PC 475A-66"	130			412	515		120.9	4	120.9	3	6.06	129.96	576	130	Earliness	
1/9/2009	2/9/2009	PC 456A2-47"	4000			173	216	302	102.0 102.0	13	102.0 102.0	3 3	52.98 52.98	157.98 157.98	744 744	667 667	Earliness Earliness	
1/9/2009	2/9/2009	PC 456A2-47"							107.3 112.7 118.0 123.3 128.7	14 15 16 17 18	107.3 112.7 118.0 123.3 128.7	3 3 3 3 3	52.98 52.98 52.98 52.98 52.98	163.31 168.65 173.98 179.31 184.65	744 744 744 744 744	667 667 667 667 667	Earliness Earliness Earliness Earliness Earliness	
																4000		
1/9/2009	2/9/2009	PC 547-60"	1187			243	304	426	86.0					744				

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	sisa benang		kapasitas/hari/mesin (kap)			waktu selesai warping	no mesin	waktu mulai	waktu set up	waktu proses (Wp)	waktu selesai	due date	yard (Y)	Keterangan	Nilai tardiness
				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
				807	**				5	86.0	3	64.13	153.13	744	807	Earliness		
				747	***				18	86.0	3	30.18	119.18	744	380	Earliness		
															1187			
1/9/2009	2/9/2009	PC 502F-60"	199			214	268	375	111.9					744	199	Earliness		
									111.9	23	111.9	3	17.84	132.74	744			
1/9/2009	2/19/2009	PC 475A-66"	130			412	515		130.9					984	130	Earliness		
									130.9	24	130.9	3	6.06	139.95	984			
1/9/2009	3/9/2009	PC 547-60"	863			243	304	426	125.3	25	125.3	3	68.09	196.39	1416	863		
1/9/2009	3/23/2009	PC 475A-66"	1170			412	515		153.3	6	153.3	3	54.52	210.82	1752	1170		
1/9/2009	3/30/2009	PC 502F-60"	2160			214	268	375	139.9	7	139.9	3	193.43	336.33	1920	2160		
1/13/2009	1/20/2009	22184-72"	1949	467	*	198	248	347	182.0	9	182.0	3	32.30	217.30	264	467	Earliness	
				459	**				10	182.0	3	31.74	216.74	264	459	Earliness		
				466	***				11	182.0	3	32.23	217.23	264	466	Earliness		
				585	****				12	182.0	3	38.52	223.52	264	557	Earliness		
															1949			
1/14/2009	1/19/2009	PC 502 F-60"	18093	2353	*	214	268	375	206.0						1234	Earliness		
				2176	**				206.0	13	206.0	3	79.00	288.00	1234	Earliness		
				1188	***				206.0	14	206.0	3	79.00	288.00	1234	Earliness		
										15	206.0	3	76.07	285.07	1188	Earliness		
															3655			
1/14/2009	1/19/2009	PC 502 F-60"	14438			214	268	375	249.8					288	7219	Tardiness	409.14	
									231.9	9	231.9	3	462.24	697.14	288	7219	Tardiness	427.02
									249.8	10	249.8	3	462.24	715.02	288	14438		
1/14/2009	1/26/2009	PC 502 F-60"	25200			214	268	375	288.7					408	6300	Tardiness	265.11	
									258.7	16	266.7	3	403.41	673.11	408	6300	Tardiness	266.11
									267.6	12	267.7	3	403.41	674.11	408	6300	Tardiness	267.11
									276.4	11	268.7	3	403.41	675.11	408	6300	Tardiness	268.01
									288.7	10	269.6	3	403.41	676.01	408	6300	Tardiness	268.01
															25200			
1/14/2009	2/2/2009	PC 502 F-60"	25200			214	268	375	312.6					576	6300	Tardiness	273.28	
									276.9	21	278.5	6	564.78	849.28	576	6300	Tardiness	273.28
									285.8	21	278.5	6	564.78	849.28	576	6300	Tardiness	273.28
									303.7	1	299.2	3	564.78	866.98	576	6300	Tardiness	290.98
									312.6	2	302.8	3	564.78	870.58	576	6300	Tardiness	294.58
															25200			

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				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
1/14/2009	2/2/2009	PC 460 C-58"	3920			268	335	469	258.7						576	490	Earliness	
									221.3	27	277.4	6	35.10	318.50	576			
									226.7	28	278.4	6	35.10	319.50	576			
									232.0	29	279.3	6	35.10	320.40	576			
									237.3	27	318.5	6	35.10	359.61	576			
									242.7	28	319.5	6	35.10	360.61	576			
									248.0	29	320.4	6	35.10	361.51	576			
									253.3	27	359.6	6	35.10	400.71	576			
258.7	28	360.6	6	35.10	401.71	576												
3920																		
1/14/2009	2/9/2009	PC 502 F-60"	25200			214	268	375	363.8					744	6300	Tardiness		
									321.4	6	321.4	3	564.78	889.18				744
									337.0	7	337.0	3	564.78	904.78				744
									354.9	8	354.9	3	564.78	922.67				744
363.8	25	363.8	3	564.78	931.55	744												
25200																		
1/14/2009	2/16/2009	PC 502 F-60"	25200			214	268	375	408.3					912	6300	Tardiness		
									372.7	15	388.9	6	564.78	959.68				912
									390.6	13	391.9	6	564.78	962.68				912
399.4	14	399.4	6	564.78	970.22	912												
1/14/2009	2/16/2009	PC 502 F-60"							408.3	17	408.3	6	564.78	947.00	912	6300	Tardiness	35.00
25200																		
1/14/2009	2/23/2009	PC 502 F-60"	25200			214	268	375	452.9					1080	6300	Earliness		
									417.2	16	417.2	6	564.78	987.98				1080
									435.1	18	435.1	6	564.78	1005.89				1080
									444.0	12	444.0	6	564.78	1014.78				1080
452.9	10	452.9	6	564.78	983.00	1080												
25200																		
1/15/2009	1/19/2009	PC 502 D-58"	3028	3637	*	173	216	302	230.0	3	230.0	3	248.00	481.00	288	2232	Tardiness	193.00
									796	**					4			
3028																		
0																		
1/15/2009	2/10/2009	2357 M-60"	187	503	*		268		230.0	1	554.2	3	16.79	573.99	768	187	Earliness	
1/15/2009	3/2/2009	2357 M-60"	238	316	*		268		230.0	1	574.0	3	22.00	599.00	1248	238		
1/19/2009	1/22/2009	PC 547-60"	100	261	*	243	304	426	326.0	26	326.0	3	5.63	334.63	360	100	Earliness	
1/19/2009	1/26/2009	PC 585B-72"	230			268	335	469	330.4	27	342.1	3	20.62	365.72	408	230	Earliness	
1/19/2009	1/27/2009	22184-72"	2338	457	*****	198	248	347	326.0	28	326.0	3	55.39	384.39	456	457	Earliness	
457																		
1/19/2009	1/27/2009	22184-72"	1881			198	248	347	346.4	29	346.4	3	227.65	577.09	432	2351	Tardiness	
2808																		
1/20/2009	2/2/2009	2357M-60"	288				268		350.0					576				

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	sisa benang		kapasitas/hari/mesin (kap)			waktu selesai warping	no mesin	waktu mulai	waktu set up	waktu proses (Wp)	waktu selesai	due date	yard (Y)	Keterangan	Nilai tardiness
				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
				78	*				350.0	5	365.5	3	6.94	375.44		78	Earliness	
1/20/2009	2/16/2009	PC 457B5-44"	2100			157	197	276	379.3	23	408.0	3	85.28	496.28	912	700	Earliness	
									370.4	11	418.9	3	60.87	482.77	912	700	Earliness	
									374.9	27	688.3	3	107.01	798.31	912	700	Earliness	
									379.3									
1/21/2009	2/2/2009	PC 455 TM-50"	625			282	352	493	395.3	19	408.0	3	21.31	432.31	576	313	Earliness	
									395.3	19	408.0	3	21.31	432.31	576	313	Earliness	
									395.3									
1/21/2009	2/2/2009	PC 507-66"	310			510	637		374.0	24	408.0	3	11.68	422.68	576	310	Earliness	
									374.0						576			
1/21/2009	2/9/2009	PC 547-60"	253	367	***	243	304	426	374.0	29	452.0	3	24.99	479.99	744	253	Earliness	
									374.0						744			
1/21/2009	2/16/2009	PC 475A-66"	325			412	515		404.9	23	497.0	3	18.93	518.93	912	325	Earliness	
									404.9						912			
1/21/2009	3/16/2009	PC 457B5-44"	1000			157	197	276	417.4	29	480.0	3	152.87	635.87	1584	1000		
									417.4						1584			
1/24/2009	1/27/2009	22167-60"	1400	2089	*	306	382	535	446.0	15	446.0	3	31.00	480.00	480	691	Earliness	
				1565	**				446.0	18	446.0	3	31.00	480.00	480	691	Earliness	
																1382		
1/24/2009	2/2/2009	2298-44"	2700			268	335	469	466.0	19	459.3	6	120.90	586.20	576	1350	Tardiness	10.20
									459.3	19	466.0	6	120.90	592.90	576	1350	Tardiness	16.90
									466.0									
1/24/2009	2/2/2009	2357M-60"	166				268		446.0	6	446.0	3	7.88	456.88	576	88	Earliness	
1/24/2009	2/9/2009	PC 475A-66"	130			412	515		454.9	28	479.2	3	7.57	489.77	744	130	Earliness	
									454.9						744			
1/24/2009	2/9/2009	PC 507-66"	1037			510	637		470.9	28	489.7	3	48.81	541.51	744	1037	Earliness	
									470.9						744			
1/24/2009	2/23/2009	PC 547-60"	805			243	304	426	482.3	11	482.8	3	45.35	531.15	1080	805	Earliness	
									482.3						1080			
1/27/2009	2/3/2009	22128-72"	1171	1891	**	446	558	781	518.0	23	518.0	3	50.37	571.37	600	1171	Earliness	
									518.0						600			

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				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
1/28/2009	2/9/2009	22171-60"	26520			315	394	551	636.1						744			
									560.6	4	560.6	3	146.86	710.41	744	2411	Earliness	
									568.1	11	568.1	3	105.01	676.12	744	2411	Earliness	
1/28/2009	2/9/2009	22171-60"							575.7	19	583.0	6	146.86	735.86	744	2411	Earliness	
									583.2	19	583.2	6	146.86	736.08	744	2411	Earliness	
									590.8	20	598.3	6	146.86	751.19	744	2411	Tardiness	7.19
									598.3	20	598.3	6	146.86	751.19	744	2411	Tardiness	7.19
									605.9	21	613.4	6	146.86	766.30	744	2411	Tardiness	22.30
									613.4	21	613.4	6	146.86	766.30	744	2411	Tardiness	22.30
									621.0	22	628.6	6	146.86	781.41	744	2411	Tardiness	37.41
									628.6	22	628.6	6	146.86	781.41	744	2411	Tardiness	37.41
									636.1	1	636.1	3	146.86	785.97	744	2411	Tardiness	41.97
1/31/2009	2/7/2009	22128-72"	8235			446	558	781	646.0						696			
					720	**			518.0	24	518.0	3	30.98	551.98	696	720	Earliness	
					419	*			518.0	27	518.0	3	22.56	543.56	696	419	Earliness	
					919	***			518.0	11	637.6	3	28.24	668.84	696	919	Earliness	
					1106	****			518.0	27	543.6	3	59.53	606.13	696	1106	Earliness	
					589	*****			518.0	28	541.5	3	31.69	576.19	696	589	Earliness	
					661	*****			518.0	23	571.4	3	28.45	602.85	696	661	Earliness	
			3820			446	558	781	646.0						696			
									635.3	27	633.9	3	54.76	691.66	696	1273	Earliness	
									640.7	11	668.8	3	54.76	726.56	696	1273	Tardiness	30.56
									646.0	2	645.7	3	68.52	717.22	696	1273	Tardiness	21.22
1/31/2009	2/9/2009	PC 457B5-44"	100			157	197	276	634.4						744			
									634.4	29	635.8	3	15.29	654.09	744	100	Earliness	
1/31/2009	2/16/2009	JS 03-60"	211			268	335	469	614.0						912			
					804	*			614.0	28	614.0	3	18.90	635.90	912	211	Earliness	
1/31/2009	2/16/2009	PC 475 A-66"	260			412	515		638.9						912			
									638.9	29	654.1	3	15.15	672.25	912	260	Earliness	
1/31/2009	2/16/2009	PC 547-60"	245			243	304	426	654.8						912			
									654.8	9	654.8	3	15.68	673.48	912	245	Earliness	
1/31/2009	2/16/2009	PC468 BI-60"	828			214	268	375	660.2						912			
									657.6	9	663.6	3	26.50	693.10	912	414	Earliness	
1/31/2009	2/16/2009	PC468 BI-60"							660.2	29	672.3	3	46.43	721.73	912	414	Earliness	
1/31/2009	2/23/2009	PC 502 F-60"	600			214	268	375	660.3						1080			
									660.3	9	693.1	3	38.40	734.50	1080	600	Earliness	

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				yard	kode stock	KE2LIBA ,KE4	KE3,KE3GANDA ,K2MS	KE2										
1/31/2009	3/9/2009	PC 502 F-60"	25200			214	268	375	695.9						1416	6300	Earliness	
									669.2	19	679.0	6	564.18	1249.18	1416			
									678.1	19	679.0	6	564.18	1249.18	1416			
									687.0	28	692.2	3	564.18	1259.38	1416			
								695.9	11	701.2	3	706.54	1410.74	1416				
1/31/2009	3/16/2009	PC 502 F-60"	25200			214	268	375	775.7						1584	6300	Earliness	
									704.8	20	757.0	6	564.18	1327.18	1584			
									748.9	20	748.9	6	564.18	1319.07	1584			
									757.8	1	757.8	3	564.18	1324.96	1584			
								775.7	2	775.7	3	564.18	1342.88	1584				
1/31/2009	3/23/2009	PC 502 F-60"	25200			214	268	375	829.1						1752	6300	Earliness	
									784.6	3	784.6	3	564.18	1351.73	1752			
									793.4	4	793.4	3	564.18	1360.62	1752			
									820.2	5	820.2	3	564.18	1387.40	1752			
								829.1	6	829.1	3	564.18	1396.29	1752				
1/31/2009	3/30/2009	PC 502 F-60"	25200			214	268	375	864.7						1920	6300	Earliness	
									838.0	7	838.0	3	564.18	1405.18	1920			
									846.9	8	846.9	3	564.18	1414.07	1920			
									855.8	9	855.8	3	403.20	1261.98	1920			
								864.7	13	864.7	3	403.20	1270.87	1920				
1/31/2009	4/6/2009	PC 502 F-60"	25200			214	268	375	909.2						2088	6300	Earliness	
									873.6	14	873.6	3	403.20	1279.76	2088			
									882.4	15	882.4	3	403.20	1288.64	2088			
									900.3	23	900.3	3	564.18	1467.51	2088			
								909.2	24	909.2	3	564.18	1476.40	2088				
1/31/2009	4/13/2009	PC 502 F-60"	25200			214	268	375	953.8						2256			
									918.1	16	918.1	3	403.20	1324.31	2256	6300	Earliness	
1/31/2009	4/13/2009	PC 502 F-60"							936.0	17	936.0	3	403.20	1342.20	2256	6300	Earliness	
									944.9	18	944.9	3	403.20	1351.09	2256	6300	Earliness	
									953.8	26	953.8	3	564.18	1520.96	2256	6300	Earliness	
1/31/2009	4/20/2009	PC 502 F-60"	28800			214	268	375	1016.1						2424	5760	Earliness	
									962.7	21	989.4	3	368.64	1361.08	2424			
									989.4	21	989.4	6	515.82	1511.27	2424			
									998.3	22	1007.2	6	515.82	1529.04	2424			
									1007.2	22	1007.2	3	515.82	1526.04	2424			
								1016.1	26	1016.1	3	515.82	1534.93	2424				

Tanggal masuk order	Tanggal delivery	Artikel	jenis benang	kebutuhan yard	long yard (kg/yard) (Ly)	kebutuhan benang (Kb)	rasio			kebutuhan benang (Kb L)			jumlah mesin knitting (jm)	jumlah beam/mesin	kebutuhan jumlah beam (jb)	sisa benang		yard (Y)	kg/beam (Kgb L)			putaran / beam penuh (Pb)	kg/beam penuh (Kgb)	putaran / beam (Pb L)			Sisa benang	rpm mesin (Rpm)	waktu mulai	waktu set up (Ws)	Wb			waktu selesai	keterangan beam	no mesin	kg benang/ jumlah beam per mesin	jumlah benang di rak susun warping
							L1	L2	L3	L1	L2	L3				kg/beam	jumlah beam		L1	L2	L3			L1	L2	L3					L1	L2	L3					
1/31/2009	3/9/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	640.3 640.3 648.4 649.5 665.6 673.8	9	1.02	1.02		648.4 649.5 665.6 673.8 681.9	8 beam 1 beam 7 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	130.80 23.70 435.00 351.60 244.50 137.40	
1/31/2009	3/16/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	681.9 681.9 690.1 692.1 707.2 707.2 715.4	9	1.02	1.02		690.1 692.1 707.2 715.4 723.6	8 beam 2 beam 6 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	137.40 30.30 435.00 358.20 251.10 144.00	
1/31/2009	3/23/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	723.6 723.6 731.7 733.8 748.9 757.0	9	1.02	1.02		731.7 738.8 748.9 757.0 765.2	8 beam 2 beam 6 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	144.00 36.90 435.00 368.80 257.70 150.60	
1/31/2009	3/30/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	765.2 765.2 773.4 776.4 776.4 790.5 798.5 798.7	9	1.02	1.02		773.4 776.4 790.5 798.7 806.8	8 beam 3 beam 3 beam 5 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	150.60 43.50 435.00 371.40 264.30 157.20	
1/31/2009	4/6/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	806.8 806.8 815.0 818.1 832.2 840.3 840.3	9	1.02	1.02		815.0 818.1 832.2 840.3 848.5	8 beam 3 beam 5 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	157.20 50.10 435.00 378.00 270.90 163.80	
1/31/2009	4/13/2009	PC 502 F-60"	PC 502 F-60"	25200	0.02	428.40	50	50		214.20	214.20		4	8	32		6300	13.39	13.39		20000	14.7	18300	18300		0	300	848.5 848.5 856.6 860.7 873.8 882.0	9	1.02	1.02		856.6 860.7 873.8 882.0 890.1	8 beam 4 beam 4 beam 8 beam 8 beam	3	107.10 107.10 107.10 107.10	163.80 56.70 435.00 384.60 277.50 170.40	
1/31/2009	4/20/2009	PC 502 F-60"	PC 502 F-60"	28800	0.02	489.60	50	50		244.80	244.80		5	8	40		5760	12.24	12.24		20000	14.7	16700	16700		0	300	890.1 890.1 897.6 902.2 914.0 914.0 921.4 928.9	9	0.93	0.93		897.6 902.2 914.0 921.4 928.9 936.3	8 beam 5 beam 3 beam 8 beam 8 beam	3	97.92 97.92 97.92 97.92	170.40 72.48 435.00 409.56 311.64 213.72 115.80	

Lampiran 4 Penyesuaian jumlah mesin *knitting*

jam 0 : 1/7/2009

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA, K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
1/6/2009	1/13/2009	PC 457B5 F-58"	953		248		35.7 35.7	96 96	60		2		2
1/6/2009	1/13/2009	PC 456 A2-47"	4472	173	216	302	62.0 35.3 40.7 46.0 51.3 56.7 62.0	96 96 96 96 96 96 96	34	19	15	11	15
1/6/2009	1/20/2009	22171-60"	4487	315	394	551	55.2 32.6 40.1 47.7 55.2	264 264 264 264 264	209	2	2	1	4
1/9/2009	1/19/2009	PC 456 A2-47"	1000	173	216	302	96.7 91.3 96.7	240 240 240	143	1	1	1	2
1/9/2009	1/19/2009	PC 475A-66"	3329	412	515		110.9	240	129	2	2		2
1/9/2009	1/19/2009	2357-72"	1230		432		112.0	240	128		1		1
1/9/2009	2/2/2009	PC 460C-58	1404	268	335	469	101.3 101.3	576	475	1	1	1	1
1/9/2009	2/2/2009	PC 475A-66"	130	412	515		120.9	576	455	1	1		1
1/9/2009	2/9/2009	PC 456A2-47"	4000	173	216	302	128.7 102.0 107.3 112.7 118.0 123.3 128.7	744 744 744 744 744 744 744	615	1	1	1	6
1/9/2009	2/9/2009	PC 547-60"	1187	243	304	426	86.0	744 744 744	658	1	1	1	2
1/9/2009	2/9/2009	PC 502F-60"	199	214	268	375	111.9	744	632	1	1	1	1

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
							111.9	744					
1/9/2009	2/19/2009	PC 475A-66"	130	412	515		130.9 130.9	984 984	853	1	1		1
1/9/2009	3/9/2009	PC 547-60"	863	243	304	426	125.3	1416	1291	1	1	1	1
1/9/2009	3/23/2009	PC 475A-66"	1170	412	515		153.3	1752	1599	1	1		1
1/9/2009	3/30/2009	PC 502F-60"	2160	214	268	375	139.9	1920	1780	1	1	1	1
1/13/2009	1/20/2009	22184-36"	1949	198	248	347	182.0	264 264 264 264	82	3	3	2	4
1/14/2009	1/19/2009	PC 502 F-60"	14438	214	268	375	232.8 214.9 232.8	288 288 288	55	30	24	17	24
1/14/2009	1/26/2009	PC 502 F-60"	25200	214	268	375	271.7 241.7 250.6 259.4 271.7	408 408 408 408 408	136	21	16	12	16
1/14/2009	2/2/2009	PC 502 F-60"	25200	214	268	375	312.6 276.9 285.8 303.7 312.6	576 576 576 576 576	263	11	9	7	9
1/14/2009	2/2/2009	PC 460 C-58"	3920	268	335	469	258.7 221.3 226.7 232.0 237.3 242.7 248.0 253.3 258.7	576 576 576 576 576 576 576 576 576	317	2	1	1	8

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
1/14/2009	2/9/2009	PC 502 F-60"	25200	214	268	375	363.8 321.4 337.0 354.9 363.8	744 744 744 744 744	380	8	6	5	6
1/14/2009	2/16/2009	PC 502 F-60"	25200	214	268	375	408.3 372.7 390.6 399.4 408.3	912 912 912 912 912	504	6	5	4	4
1/14/2009	2/23/2009	PC 502 F-60"	25200	214	268	375	452.9 417.2 435.1 444.0 452.9	1080 1080 1080 1080 1080	627	5	4	3	4
1/15/2009	1/19/2009	PC 502 D-58"	2038	173	216	302	247.9	288	40	8	6	5	6
1/15/2009	2/10/2009	2357 M-60"	187		268		230.0	768	538		1		
1/15/2009	3/2/2009	2357 M-60"	238		268		230.0	1248	1018		1		1
1/19/2009	1/22/2009	PC 547-60"	100	243	304	426	326.0	360		1	1	1	1
1/19/2009	1/26/2009	PC 585B-72"	230	268	335	469	330.4	408	78	1	1	1	1
1/19/2009	1/27/2009	22184-72"	2338	198	248	347	326.0	456		1	1	1	1
1/19/2009	1/27/2009	22184-72"	1881	198	248	347	346.4	432	86	3	3	2	3
1/20/2009	2/2/2009	2357M-60"	288		268		350.0 350.0	576	226		1		1
1/20/2009	2/16/2009	PC 457B5-44"	2100	157	197	276	379.3 370.4 374.9 379.3	912 912 912 912	533		1		3
1/21/2009	2/2/2009	PC 455 TM-50"	625	282	352	493	395.3 395.3 395.3	576 576 576	181	1	1	1	1
1/21/2009	2/2/2009	PC 507-66"	310	510	637		374.0 374.0	576 576	202	1	1		1

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
1/21/2009	2/9/2009	PC 547-60"	253	243	304	426	374.0 374.0	744 744	370	1	1	1	1
1/21/2009	2/16/2009	PC 475A-66"	325	412	515		404.9 404.9	912 912	507	1	1		1
1/21/2009	3/16/2009	PC 457B5-44"	1000	157	197	276	417.4 417.4	1584 1584	1167	1	1		1
1/24/2009	2/2/2009	2298-44"	2700	268	335	469	466.0 459.3 466.0	576 576 576	110	3	2	2	2
1/24/2009	2/2/2009	2357M-60"	166		268		446.0	576	130		1		1
1/24/2009	2/9/2009	PC 475A-66"	130	412	515		454.9 454.9	744 744	289	1	1		1
1/24/2009	2/9/2009	PC 507-66"	1037	510	637		470.9 470.9	744 744	273	1	1		1
1/24/2009	2/23/2009	PC 547-60"	805	243	304	426	482.3 482.3	1080 1080	598	1	1	1	1
1/27/2009	2/3/2009	22128-72"	1171	446	558	781	518.0 518.0	600 600	82	1	1	1	1
1/28/2009	2/9/2009	22171-60"	26520	315	394	551	636.1 560.6 568.1 575.7 583.2 590.8 598.3 605.9 613.4 621.0 628.6 636.1	744 744 744 744 744 744 744 744 744 744 744 744	108	19	15	11	16
1/31/2009	2/7/2009	22128-72"	3820	446	558	781	646.0 635.3 640.7 646.0	696 696 696 696	50	5	4	3	4

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
1/31/2009	2/9/2009	PC 457B5-44"	100	157	197	276	634.4 634.4	744 744	110		1		1
1/31/2009	2/16/2009	JS 03-60"	211	268	335	469	614.0 614.0	912 912	298	1	1	1	1
1/31/2009	2/16/2009	PC 475 A-66"	260	412	515		638.9 638.9	912 912	273	1	1		1
1/31/2009	2/16/2009	PC 547-60"	245	243	304	426	654.8 654.8	912 912	257	1	1	1	1
1/31/2009	2/16/2009	PC468 BI-60"	828	214	268	375	660.2 657.6 660.2	912 912 912	252	1	1	1	1
1/31/2009	2/23/2009	PC 502 F-60"	600	214	268	375	660.3 660.3	1080 1080	420	1	1	1	1
1/31/2009	3/9/2009	PC 502 F-60"	25200	214	268	375	695.9 669.2 678.1 687.0 695.9	1416 1416 1416 1416 1416	720	4	4	3	4
1/31/2009	3/16/2009	PC 502 F-60"	25200	214	268	375	775.7 704.8 748.9 757.8 775.7	1584 1584 1584 1584 1584	808	4	3	2	4
1/31/2009	3/23/2009	PC 502 F-60"	25200	214	268	375	829.1 784.6 793.4 820.2 829.1	1752 1752 1752 1752 1752	923	4	3	2	4
1/31/2009	3/30/2009	PC 502 F-60"	25200	214	268	375	864.7 838.0 846.9 855.8 864.7	1920 1920 1920 1920 1920	1055	3	3	2	4
1/31/2009	4/6/2009	PC 502 F-60"	25200	214	268	375	909.2 873.6 882.4	2088 2088 2088	1179	3	2	2	4

Tanggal masuk order	Delivery	Artikel	total rencana (Tr)	kapasitas/hari/mesin (kap)			waktu selesai warping	due date	waktu tersedia (Wt)	jumlah mesin yang dibutuhkan (Jm)			jumlah mesin yang digunakan (Jm)
				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2				KE2LIBA,KE4	KE3,KE3GANDA,K2MS	KE2	
							900.3 909.2	2088 2088					
1/31/2009	4/13/2009	PC 502 F-60"	25200	214	268	375	953.8 918.1 936.0 944.9 953.8	2256 2256 2256 2256 2256	1302	3	2	2	4
1/31/2009	4/20/2009	PC 502 F-60"	28800	214	268	375	1016.1 962.7 989.4 998.3 1007.2 1016.1	2424 2424 2424 2424 2424 2424	1408	3	2	2	5

Lampiran 1 RENCANA PRODUKSI												
Tanggal masuk order	Tanggal delivery	Customer	Artikel	Quantity order	stock finish	kebutuhan greige	susut	mulur	% grade C	rencana greige	stock greige	total rencana
1/6/2009	1/13/2009	Gucci Ratu Textile	PC 457B5 F-58"	2200		2200		30%		2200	1247	953
1/6/2009	1/13/2009	Gucci Ratu Textile	PC 456 A2-47"	6600	685	5915		35%		5915	1443	4472
1/6/2009	1/20/2009	Sritex	22171-60"	2400	327	2073	5%		15%	2488		
			22171-60"	2150	484	1666	5%		15%	1999		4487
1/9/2009	1/19/2009	PT.Millenium Kreasi Modern	PC 456 A2-47"	1000		1000		35%		1000		1000
1/9/2009	1/19/2009	MJD	PC 475A-66"	1000		1000	15%		15%	1300	171	
	1/19/2009		PC 475A-66"	2000	408	1592	15%		15%	2070		
	1/26/2009		PC 475A-66"	100		100	15%		15%	130		3329
1/9/2009	1/19/2009	PT.Millenium Kreasi Modern	2357-72"	1000		1000	8%		15%	1230		1230
1/9/2009	2/2/2009	MJD	PC 460C-58	2000		2000			15%	2300		2300
1/9/2009	2/2/2009	MJD	PC 475A-66"	100		100	15%		15%	130		130
1/9/2009	2/9/2009	MJD	PC 456A2-47"	4000		4000		35%		4000		4000
1/9/2009	2/9/2009	MJD	PC 547-60"	1000	718	282		13%	15%	324		
			PC 547-60"	750		750		13%	15%	863		1187
1/9/2009	2/9/2009	MJD	PC 502F-60"	200	34	166	5%		15%	199		199
1/9/2009	2/19/2009	MJD	PC 475A-66"	100		100	15%		15%	130		130
1/9/2009	3/9/2009	MJD	PC 547-60"	750		750		13%	15%	863		863
1/9/2009	3/30/2009	MJD	PC 502F-60"	1800		1800	5%		15%	2160		2160
1/9/2009	3/23/2009	MJD	PC 475A-66"	900		900	15%		15%	1170		1170
1/13/2009	1/20/2009	Suryadi WangsaHardja	22184-36"	4000		4000	7%		15%	4880	983	3897
1/14/2009	1/19/2009	MJD	PC 502 F-60"	7000	113	6887	5%		15%	8264	6971	
			PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		18093
1/14/2009	1/26/2009	MJD	PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		25200
1/14/2009	2/2/2009	MJD	PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		25200
1/14/2009	2/2/2009	MHK	PC 460 C-58"	4500		4500			15%	5175	1255	3920
1/14/2009	2/9/2009	MJD	PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		
		MJD	PC 502 F-60"	7000		7000	5%		15%	8400		25200

1/14/2009	2/16/2009	MJD	PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		25200
1/14/2009	2/23/2009	MJD	PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		
			PC 502 F-60"	7000		7000	5%		15%	8400		25200
1/15/2009	1/19/2009	TIRTAH	PC 502 D-58"	2900	267	2633		10%	15%	3028		3028
1/15/2009	2/10/2009	PT.Liebra Permana	2357 M-60"	163		163		5%	15%	187		187
1/15/2009	3/2/2009	PT.Liebra Permana	2357 M-60"	40		40		5%	15%	46		
1/15/2009	3/2/2009	PT.Liebra Permana	2357 M-60"	55		55		5%	15%	63		
1/15/2009	3/2/2009	PT.Liebra Permana	2357 M-60"	55		55		5%	15%	63		
1/15/2009	3/2/2009	PT.Liebra Permana	2357 M-60"	109		109		5%	15%	125		298
1/19/2009	1/22/2009	TIRTAH	PC 547-60"	550	520	30		13%	15%	35		100
1/19/2009	1/26/2009	Toko Harapan Baru	PC 585B-72"	200		200		13%	15%	230		230
1/19/2009	1/27/2009	PT.Trio Mitra Jaya	22184-72"	1000	134	866	7%		15%	1057		
1/19/2009	1/27/2009	PT.Trio Mitra Jaya	22184-72"	1500	450	1050	7%		15%	1281		2338
1/20/2009	2/2/2009	Goldindo Perkasa	2357M-60"	250		250		5%	15%	288		288
1/20/2009	2/16/2009	MHK	PC 457B5-44"	2100		2100		32%		2100		2100
1/21/2009	2/2/2009	MJD	PC 455 TM-50"	500		500	10%		15%	625		625
1/21/2009	2/2/2009	MJD	PC 507-66"	500	190	310				310		310
1/21/2009	2/9/2009	MJD	PC 547-60"	1000	780	220		13%	15%	253		253
1/21/2009	2/16/2009	MJD	PC 475A-66"	250		250	15%		15%	325		325
1/21/2009	3/16/2009	MJD	PC 457B5-44"	1000		1000		32%		1000		1000
1/24/2009	1/27/2009	Anamika PD	22167-60"	1500	283	1217		5%	15%	1400		1400
1/24/2009	2/2/2009	UD.Sumber Baru	2298-44"	750		750	5%		15%	900		
1/24/2009	2/2/2009	UD.Sumber Baru	2298-44"	750		750	5%		15%	900		
1/24/2009	2/2/2009	UD.Sumber Baru	2298-44"	750		750	5%		15%	900		2700
1/24/2009	2/2/2009	PT.Liebra Permana	2357M-60"	144		144		5%	15%	166		166
1/24/2009	2/9/2009	MJD	PC 475A-66"	100		100	15%		15%	130		130
1/24/2009	2/9/2009	MJD	PC 507-66"	600	139	461			15%	530		
1/24/2009	2/16/2009	MJD	PC 507-66"	500	59	441			15%	507		1037
1/24/2009	2/23/2009	MJD	PC 547-60"	1000	300	700		13%	15%	805		805
1/27/2009	2/3/2009	Ny.Tanto	22128-72"	150		150	7%		15%	183		
1/27/2009	2/3/2009	Ny.Tanto	22128-72"	150		150	7%		15%	183		366
1/28/2009	2/9/2009	Sritex	22171-60"	7550		7550	5%		15%	9060		
1/28/2009	2/9/2009	Sritex	22171-60"	14550		14550	5%		15%	17460		26520
1/31/2009	2/7/2009	Achay	22128-72"	1200		1200	7%		15%	1464		

1/31/2009	2/7/2009	Achay	22128-72"	3000		3000	7%		15%	3660		
1/31/2009	2/7/2009	Achay	22128-72"	600		600	7%		15%	732		
1/31/2009	2/7/2009	Achay	22128-72"	300		300	7%		15%	366		
1/31/2009	2/7/2009	Achay	22128-72"	300		300	7%		15%	366		
1/31/2009	2/7/2009	Achay	22128-72"	900		900	7%		15%	1098		
1/31/2009	2/7/2009	Achay	22128-72"	450		450	7%		15%	549		8235
1/31/2009	2/9/2009	MJD	PC 457B5-44"	500	453	47			15%	54		54
1/31/2009	2/16/2009	PT.Goldindo Perkasa	JS 03-60"	211		211		15%		211		211
1/31/2009	2/16/2009	TIRTAH	PC 475 A-66"	200		200	15%		15%	260		260
1/31/2009	2/16/2009	MJD	PC 547-60"	1500	1287	213		13%	15%	245		245
1/31/2009	2/16/2009	PT. Bali Indah Alam Semesta	PC468 BI-60"	1000	172	828		25%		828		828
1/31/2009	2/23/2009	MJD	PC 502 F-60"	500		500	5%		15%	600		600
1/31/2009	3/9/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/9/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/9/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	3/16/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/16/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/16/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	3/23/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/23/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/23/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	3/30/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/30/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	3/30/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	4/6/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	4/6/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	4/6/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	4/13/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	4/13/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		
1/31/2009	4/13/2009	MJD	PC 502F-60"	7000		7000	5%		15%	8400		25200
1/31/2009	4/20/2009	MJD	PC 502F-60"	8000		8000	5%		15%	9600		
1/31/2009	4/20/2009	MJD	PC 502F-60"	8000		8000	5%		15%	9600		
1/31/2009	4/20/2009	MJD	PC 502F-60"	8000		8000	5%		15%	9600		28800