

## DAFTAR PUSTAKA

- Basuki. (2016). Optimasi Ukuran Pemesanan Lot Yang Ekonomis pada Permintaan. *Industrial Engineering Journal Vol.5 No.1*, 29-34.
- Bushuev, M. A., Guiffrida, A., Jaber, M. Y., & Khan, M. (2015). *A Review of Inventory Lot Sizing Review Papers. Management Research Review*, 283-289.
- Erika, F., Indriani, I. R., & Messy, F. (2019). Perencanaan Persediaan Komponen pada Perusahaan *Original Equipment Manufacturer* Menggunakan Metode Persediaan Deterministik Dinamis. *Spektrum Industri, Vol. 17, No. 1*, 1-91.
- Eunike, A., Setyanto, N. W., Yuniarti, R., Hamdala, I., Lukodono, R. P., & Fanani, A. A. (2018). *Perencanaan Produksi dan Pengendalian Persediaan*. Malang: UB Press.
- Gaspersz, V. (2009). *Production Planning and Inventory Control (Berdasarkan Pendekatan Sistem Terintegrasi MRP II dan JIT Menuju Manufaktur 21)*. Jakarta: Kompas Gramedia.
- Haizer, J., & Render, B. (2015). *Manajemen Operasi: Manajemen Keberlangsungan dan Rantai Pasokan (Edisi 11)*. Jakarta: Salempa Empat.
- Handoko, T. H. (2015). *Manajemen Edisi 2*. Yogyakarta: BPF E.
- Hidayat, M., Nofianti, & Lisdayanti. (2017). Analisis Pengendalian Persediaan Bahan Baku dengan Menggunakan Metode EOQ (*Economic Order Quantity*) pada PT. Bumi Sarana Beton (Kalla Block) di Kota Makassar. *Jurnal Ekonomi Balance Fakultas Ekonomi dan Bisnis Volume 13 No.1*.
- Nasution, A. H. (2003). *Perencanaan dan Pengendalian Produksi (Edisi Pertama-Cetakan Kedua)*. Surabaya: Penerbit Guna Widya.
- Pide, A. (2018). *Manajemen Operasi: Teori dan Aplikasi dalam Dunia Bisnis*. Bogor: Azkiya Publishing.
- Pujawan, I. N., & ER, M. (2010). *Supply Chain Management (Edisi Kedua)*. Surabaya: Guna Widya.
- Rangkuti, F. (2007). *Manajemen Persediaan: Aplikasi di Bidang Bisnis*. Jakarta: Rajawali Pers.
- Siswanto. (2007). *Operation Research Jilid 2*. Jakarta: Erlangga.

Sofyan, D. K. (2013). *Perencanaan & Pengendalian Produksi (Edisi Pertama)*. Yogyakarta: Graha Ilmu.

Taha, H. A. (2007). *Operation Research: An Introduction (Eighth Edition)*. New Jersey: Pearson Education.

Tersine, R. J. (1994). *Principles of inventory and materials management*. London: Prentice.

# LAMPIRAN

## Lampiran 1

Lampiran 1 berisi hasil peramalan permintaan Bata Ringan AAC 10cm dengan metode *Weighted Moving Average* dan *Single Exponential Smoothing*. Berikut ini hasil peramalan Bata Ringan AAC 10cm berdasarkan data historis permintaan Bata Ringan AAC 10cm:

- *Weighted Moving Average* (3 Bulan)

**Tabel Lampiran 1 Hasil Peramalan Metode *Weighted Moving Average* (3 Bulan)**

Periode	A <sub>t</sub>	F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	(A <sub>t</sub> - F <sub>t</sub> ) <sup>2</sup>
Juli 2018	195.722,30				
Agustus 2018	427.678,25				
September 2018	398.939,50	355.319,89			
Oktober 2018	460.558,70	436.933,79			
November 2018	491.650,50	460.699,80			
Desember 2018	478.428,60	477.266,60			
Januari 2019	375.907,00	430.473,28			
Februari 2019	324.322,50	375.745,15			
Maret 2019	319.112,36	334.613,55			
April 2019	468.950,00	395.333,71			
Mei 2019	413.721,80	403.876,49			
Juni 2019	290.624,50	365.980,20			
Juli 2019	223.685,00	287.929,08	64.244,08	64.244,08	4.127.301.172,61
Agustus 2019	531.988,50	394.571,63	137.416,88	137.416,88	18.883.397.534,77
September 2019	426.371,00	402.103,88	24.267,13	24.267,13	588.893.355,77
Oktober 2019	423.590,50	451.385,13	-27.794,63	27.794,63	772.541.178,89
November 2019	519.082,00	472.031,38	47.050,63	47.050,63	2.213.761.312,89
Desember 2019	311.831,00	391.583,63	-79.752,63	79.752,63	6.360.481.194,39
Januari 2020	323.741,50	369.599,00	-45.857,50	45.857,50	2.102.910.306,25
Februari 2020	302.659,50	310.222,88	-7.563,38	7.563,38	57.204.641,39
Maret 2020	272.323,00	292.761,75	-20.438,75	20.438,75	417.742.501,56
April 2020	313.906,00	300.698,63	13.207,38	13.207,38	174.434.754,39
Mei 2020	211.193,50	252.154,00	-40.960,50	40.960,50	1.677.762.560,25
Juni 2020	201.690,00	232.119,87	-30.429,87	30.429,87	925.977.292,51
<b>Total</b>			<b>-95.099,33</b>	<b>538.983,33</b>	<b>38.302.407.805,67</b>

- *Weighted Moving Average* (5 Bulan)

**Tabel Lampiran 1 Hasil Peramalan Metode *Weighted Moving Average* (5 Bulan)**

Periode	A <sub>t</sub>	F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	(A <sub>t</sub> - F <sub>t</sub> ) <sup>2</sup>
Juli 2018	195.722,30				
Agustus 2018	427.678,25				
September 2018	398.939,50				
Oktober 2018	460.558,70				
November 2018	491.650,50	419.095,01			
Desember 2018	478.428,60	458.195,48			
Januari 2019	375.907,00	424.799,40			
Februari 2019	324.322,50	400.710,72			
Maret 2019	319.112,36	378.191,23			
April 2019	468.950,00	412.245,57			
Mei 2019	413.721,80	388.732,50			

**Lanjutan Tabel Lampiran 1 Hasil Peramalan Metode *Weighted Moving Average* (5 Bulan)**

Juni 2019	290.624,50	345.165,80			
Juli 2019	223.685,00	313.335,30	-89.650,30	89.650,30	8.037.176.025,87
Agustus 2019	531.988,50	422.342,60	109.645,91	109.645,91	12.022.224.483,27
September 2019	426.371,00	389.551,37	36.819,63	36.819,63	1.355.685.153,34
Oktober 2019	423.590,50	390.336,55	33.253,95	33.253,95	1.105.825.190,60
November 2019	519.082,00	448.478,05	70.603,95	70.603,95	4.984.917.755,60
Desember 2019	311.831,00	409.887,20	-98.056,20	98.056,20	9.615.018.358,44
Januari 2020	323.741,50	381.627,78	-57.886,28	57.886,28	3.350.820.833,38
Februari 2020	302.659,50	357.800,55	-55.141,05	55.141,05	3.040.535.395,10
Maret 2020	272.323,00	327.526,30	-55.203,30	55.203,30	3.047.404.330,89
April 2020	313.906,00	307.145,65	6.760,35	6.760,35	45.702.332,12
Mei 2020	211.193,50	266.371,90	-55.178,40	55.178,40	3.044.655.826,57
Juni 2020	201.690,00	245.688,30	-43.998,30	43.998,30	1.935.850.402,89
<b>Total</b>			<b>198.030,04</b>	<b>712.197,61</b>	<b>51.585.816.088,07</b>

- *Single Exponential Smoothing* ( $\alpha = 0,5$ )

**Tabel Lampiran 1 Hasil Peramalan Metode *Single Exponential Smoothing* ( $\alpha = 0,5$ )**

Periode	A <sub>t</sub>	F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	(A <sub>t</sub> - F <sub>t</sub> ) <sup>2</sup>
Juli 2018	195.722,30	195.722,30			
Agustus 2018	427.678,25	311.700,28			
September 2018	398.939,50	355.319,89			
Oktober 2018	460.558,70	407.939,29			
November 2018	491.650,50	449.794,90			
Desember 2018	478.428,60	464.111,75			
Januari 2019	375.907,00	420.009,37			
Februari 2019	324.322,50	372.165,94			
Maret 2019	319.112,36	345.639,15			
April 2019	468.950,00	407.294,57			
Mei 2019	413.721,80	410.508,19			
Juni 2019	290.624,50	350.566,34			
Juli 2019	223.685,00	287.125,67	-63.440,67	63.440,67	4.024.718.823,97
Agustus 2019	531.988,50	409.557,09	122.431,41	122.431,41	14.989.451.172,48
September 2019	426.371,00	417.964,04	8.406,96	8.406,96	70.676.927,32
Oktober 2019	423.590,50	420.777,27	2.813,23	2.813,23	7.914.254,81
November 2019	519.082,00	469.929,64	49.152,36	49.152,36	2.415.954.913,29
Desember 2019	311.831,00	390.880,32	-79.049,32	79.049,32	6.248.794.654,95
Januari 2020	323.741,50	357.310,91	-33.569,41	33.569,41	1.126.905.216,08
Februari 2020	302.659,50	329.985,20	-27.325,70	27.325,70	746.694.124,58
Maret 2020	272.323,00	301.154,10	-28.831,10	28.831,10	831.232.455,98
April 2020	313.906,00	307.530,05	6.375,95	6.375,95	40.652.724,16
Mei 2020	211.193,50	259.361,78	-48.168,28	48.168,28	2.320.182.770,26
Juni 2020	201.690,00	230.525,89	-28.835,89	28.835,89	831.508.424,01
<b>Total</b>			<b>120.040,46</b>	<b>498.400,28</b>	<b>33.654.686.461,91</b>

- *Single Exponential Smoothing* ( $\alpha = 0,9$ )

**Tabel Lampiran 1 Hasil Peramalan Metode *Single Exponential Smoothing* ( $\alpha = 0,9$ )**

Periode	A <sub>t</sub>	F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	A <sub>t</sub> - F <sub>t</sub>	(A <sub>t</sub> - F <sub>t</sub> ) <sup>2</sup>
Juli 2018	195.722,30	195.722,30			
Agustus 2018	427.678,25	404.482,66			
September 2018	398.939,50	399.493,82			
Oktober 2018	460.558,70	454.452,21			
November 2018	491.650,50	487.930,67			
Desember 2018	478.428,60	479.378,81			
Januari 2019	375.907,00	386.254,18			
Februari 2019	324.322,50	330.515,67			
Maret 2019	319.112,36	320.252,69			
April 2019	468.950,00	454.080,27			
Mei 2019	413.721,80	417.757,65			
Juni 2019	290.624,50	303.337,81			
Juli 2019	223.685,00	231.650,28	-7.965,28	7.965,28	63.445.708,88
Agustus 2019	531.988,50	501.954,68	30.033,82	30.033,82	902.030.455,10
September 2019	426.371,00	433.929,37	-7.558,37	7.558,37	57.128.924,02
Oktober 2019	423.590,50	424.624,39	-1.033,89	1.033,89	1.068.921,88
November 2019	519.082,00	509.636,24	9.445,76	9.445,76	89.222.406,95
Desember 2019	311.831,00	331.611,52	19.780,52	19.780,52	391.269.124,49
Januari 2020	323.741,50	324.528,50	-787,00	787,00	619.372,76
Februari 2020	302.659,50	304.846,40	-2.186,90	2.186,90	4.782.532,65
Maret 2020	272.323,00	275.575,34	-3.252,34	3.252,34	10.577.715,63
April 2020	313.906,00	310.072,93	3.833,07	3.833,07	14.692.394,94
Mei 2020	211.193,50	221.081,44	-9.887,94	9.887,94	97.771.424,69
Juni 2020	201.690,00	203.629,14	-1.939,14	1.939,14	3.760.280,77
<b>Total</b>			<b>11.078,74</b>	<b>97.704,04</b>	<b>1.636.369.262,76</b>

## Lampiran 2

Lampiran 2 berisi perhitungan MAD, MSE, dan MFE untuk mengukur akurasi peramalan permintaan Bata Ringan AAC 10cm dengan metode *Weighted Moving Average* dan *Single Exponential Smoothing*.

Telah diketahui bahwa, permintaan aktual ( $A_t$ ) dan hasil peramalan ( $F_t$ ) Bata Ringan AAC 10cm serta selisih kesalahannya dapat dilihat pada tabel **Lampiran 1**; Maka ukuran akurasi peramalan permintaan Bata Ringan AAC 10cm dengan metode *Weighted Moving Average* dan *Single Exponential Smoothing*, yaitu:

- *Weighted Moving Average* (3 Bulan)

$$\text{MFE} = \frac{-95.099,33}{12} = -7.924,94$$

$$\text{MAD} = \frac{538.983,33}{12} = 44.915,28$$

$$\text{MSE} = \frac{38.302.407.805,67}{12} = 3.191.867.317,14$$

- *Weighted Moving Average* (5 Bulan)

$$\text{MFE} = \frac{-198.030,04}{12} = -16.502,50$$

$$\text{MAD} = \frac{712.197,61}{12} = 59.349,80$$

$$\text{MSE} = \frac{51.585.816.088,07}{12} = 4.298.818.007,34$$

- *Single Exponential Smoothing* ( $\alpha = 0,5$ )

$$\text{MFE} = \frac{-120.040,46}{12} = -10.003,37$$

$$\text{MAD} = \frac{498.400,28}{12} = 41.533,36$$

$$\text{MSE} = \frac{33.654.686.461,91}{12} = 2.804.557.205,16$$

- *Single Exponential Smoothing* ( $\alpha = 0,9$ )

$$\text{MFE} = \frac{-11.078,74}{12} = -923,23$$

$$\text{MAD} = \frac{97.704,04}{12} = 8.142,00$$

$$\text{MSE} = \frac{1.636.369.262,76}{12} = 136.364.105,23$$



### Lampiran 3

Lampiran 3 berisi perhitungan konversi dari Permintaan Bata Ringan AAC 10cm menjadi Permintaan setiap bahan baku Bata Ringan AAC 10cm berdasarkan *bill of material*.

Telah diketahui bahwa, permintaan Bata Ringan AAC 10cm dari periode Juli 2020 – periode Juni 2021 dapat dilihat pada **Tabel 4.8**; dan kuantitas Bata Ringan AAC 10cm dan semua bahan bakunya dapat dilihat pada **Tabel 4.1**. Maka permintaan setiap bahan baku Bata Ringan AAC 10cm pada dari periode Juli 2020 – Juni 2021 yaitu:

- Juli 2020

$$\text{Permintaan}_{\text{pasir silika}} = \frac{231.650,28}{249} \times 1400 = 1.302.451,38$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{231.650,28}{249} \times 14 = 13.024,51$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{231.650,28}{249} \times 402 = 131.733,65$$

$$\text{Permintaan}_{\text{Semen}} = \frac{231.650,28}{249} \times 141,6 = 373.989,61$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{231.650,28}{249} \times 2,1 = 1.953,68$$

- Agustus 2020

$$\text{Permintaan}_{\text{pasir silika}} = \frac{501.954,68}{249} \times 1400 = 2.822.235,14$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{501.954,68}{249} \times 14 = 28.222,35$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{501.954,68}{249} \times 402 = 285.448,93$$

$$\text{Permintaan}_{\text{Semen}} = \frac{501.954,68}{249} \times 141,6 = 810.384,66$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{501.954,68}{249} \times 2,1 = 4.233,35$$

- September 2020

$$\text{Permintaan}_{\text{pasir Silika}} = \frac{433.929,37}{249} \times 1400 = 2.439.763,51$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{433.929,37}{249} \times 14 = 24.397,64$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{433.929,37}{249} \times 402 = 246.764,65$$

$$\text{Permintaan}_{\text{Semen}} = \frac{433.929,37}{249} \times 141,6 = 700.560,67$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{433.929,37}{249} \times 2,1 = 3.659,65$$

- Oktober 2020

$$\text{Permintaan}_{\text{pasir Silika}} = \frac{424.624,39}{249} \times 1400 = 2.387.446,35$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{424.624,39}{249} \times 14 = 23.874,46$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{424.624,39}{249} \times 402 = 241.473,15$$

$$\text{Permintaan}_{\text{Semen}} = \frac{424.624,39}{249} \times 141,6 = 685.538,17$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{424.624,39}{249} \times 2,1 = 3.581,17$$

- November 2020

$$\text{Permintaan}_{\text{pasir Silika}} = \frac{509.636,24}{249} \times 1400 = 2.865.424,64$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{509.636,24}{249} \times 14 = 28.654,25$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{509.636,24}{249} \times 402 = 289.817,23$$

$$\text{Permintaan}_{\text{Semen}} = \frac{509.636,24}{249} \times 141,6 = 822.786,22$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{509.636,24}{249} \times 2,1 = 4.298,14$$

- Desember 2020

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{331.611,52}{249} \times 1400 = 1.864.482,46$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{331.611,52}{249} \times 14 = 18.644,82$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{331.611,52}{249} \times 402 = 188.579,08$$

$$\text{Permintaan}_{\text{Semen}} = \frac{331.611,52}{249} \times 141,6 = 535.372,82$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{331.611,52}{249} \times 2,1 = 2.796,72$$

- Januari 2021

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{324.528,50}{249} \times 1400 = 1.824.658,25$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{324.528,50}{249} \times 14 = 18.246,58$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{324.528,50}{249} \times 402 = 184.551,15$$

$$\text{Permintaan}_{\text{Semen}} = \frac{324.528,50}{249} \times 141,6 = 523.937,58$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{324.528,50}{249} \times 2,1 = 2.736,99$$

- Februari 2021

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{304.846,40}{249} \times 1400 = 1.713.995,82$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{304.846,40}{249} \times 14 = 17.139,96$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{304.846,40}{249} \times 402 = 173.358,43$$

$$\text{Permintaan}_{\text{Semen}} = \frac{304.846,40}{249} \times 141,6 = 492.161,66$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{304.846,40}{249} \times 2,1 = 2.570,99$$

- Maret 2021

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{275.575,34}{249} \times 1400 = 1.549.419,58$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{275.575,34}{249} \times 14 = 15.494,20$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{275.575,34}{249} \times 402 = 156.712,72$$

$$\text{Permintaan}_{\text{Semen}} = \frac{275.575,34}{249} \times 141,6 = 444.904,77$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{275.575,34}{249} \times 2,1 = 2.324,13$$

- April 2021

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{310.072,93}{249} \times 1400 = 1.743.381,96$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{310.072,93}{249} \times 14 = 17.433,82$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{310.072,93}{249} \times 402 = 176.330,63$$

$$\text{Permintaan}_{\text{Semen}} = \frac{310.072,93}{249} \times 141,6 = 500.599,68$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{310.072,93}{249} \times 2,1 = 2.615,07$$

- Mei 2021

$$\text{Permintaan}_{\text{Pasir Silika}} = \frac{221.081,44}{249} \times 1400 = 1.243.028,20$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{221.081,44}{249} \times 14 = 12.430,28$$

$$\text{Permintaan}_{\text{Kapur}} = \frac{221.081,44}{249} \times 402 = 125.723,42$$

$$\text{Permintaan}_{\text{Semen}} = \frac{221.081,44}{249} \times 141,6 = 356.926,67$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{221.081,44}{249} \times 2,1 = 1.864,54$$

- Juni 2021

$$\text{Permintaan}_{\text{pasir silika}} = \frac{203.629,14}{249} \times 1400 = 1.144.902,82$$

$$\text{Permintaan}_{\text{Gypsum}} = \frac{203.629,14}{249} \times 14 = 11.449,03$$

$$\text{Permintaan}_{\text{kapur}} = \frac{203.629,14}{249} \times 402 = 115.798,74$$

$$\text{Permintaan}_{\text{semen}} = \frac{203.629,14}{249} \times 141,6 = 328.750,67$$

$$\text{Permintaan}_{\text{Aluminium}} = \frac{203.629,14}{249} \times 2,1 = 1.717,35$$

#### Lampiran 4

Lampiran 4 berisi perhitungan perhitungan *safety stock* dan *reorder point* pada setiap jenis bahan baku Bata Ringan AAC 10cm.

Telah diketahui bahwa, *lead time* (L) bahan baku Bata Ringan AAC 10cm dapat dilihat pada tabel 4.6; *service level* bahan baku Bata Ringan AAC 10cm maka nilai *safety factor* (Z) adalah 1,64; standar deviasi ( $\sigma$ ) permintaan bahan baku Bata Ringan AAC 10cm dapat dilihat pada **Tabel 4.9**; dan rata-rata perminaan ( $D_r$ ) bahan baku Bata Ringan AAC 10cm dapat dilihat pada **Tabel 4.9**. Maka *safety stock* (SS) dan *reorder point* (ROP) setiap bahan baku Bata Ringan AAC 10cm yaitu:

- *Safety Stcok*

$$SS_{Pasir\ Silika} = 1,64 \times 592.258,93 \times \sqrt{0,47} = 665.491,12$$

$$SS_{Gypsum} = 1,64 \times 19.084,33 \times \sqrt{0,17} = 3.977,07$$

$$SS_{Kapur} = 1,64 \times 59.902,76 \times \sqrt{0,17} = 40.225,22$$

$$SS_{Semen} = 1,64 \times 170.062,92 \times \sqrt{0,03} = 51.071,22$$

- *Reorder Point*

$$ROP_{Pasir\ Silika} = (1.908.432,51 \times 0,47) + 665.491,12 = 1.556.092,96$$

$$ROP_{Gypsum} = (5.922,59 \times 0,17) + 3.977,07 = 7.157,79$$

$$ROP_{Kapur} = (193.024,32 \times 0,17) + 40.225,22 = 72.395,94$$

$$ROP_{Semen} = (547.992,76 \times 0,03) + 51.071,22 = 69.337,65$$









## Lampiran 6

Lampiran 6 berisi rekapitulasi hasil perhitungan biaya minimum ( $f_e$ ) berdasarkan *Wagner-Within Algorithm* untuk semua bahan baku Bata Ringan AAC 10cm. Berikut ini merupakan rekapitulasi biaya minimum ( $f_e$ ) untuk semua bahan baku Bata Ringan AAC 10cm:

- Pasir Silika

**Tabel Lampiran 6 Rekapitulasi Biaya Minimum Pasir Silika**

	e=1	e=2	e=3	e=4	e=5	e=6	e=7	e=8	e=9	e=10	e=11	e=12
c=1	485.781.980,95	1.219.450.227,47	2.487.932.073,57	4.349.853.734,09	7.329.436.886,69	9.752.891.192,77	12.598.920.139,10	15.717.912.621,10	18.940.209.538,36	23.019.095.703,15	26.250.471.801,01	29.524.390.107,78
c=2		971.563.961,90	1.605.804.884,95	2.847.085.991,96	5.081.773.356,41	7.020.536.801,27	9.392.227.589,88	12.065.649.717,31	14.885.159.519,92	18.510.836.110,84	21.419.074.598,92	24.395.363.968,71
c=3			1.338.398.085,16	1.959.038.638,67	3.448.830.214,97	4.902.902.798,61	6.800.255.429,50	9.028.107.202,36	11.444.829.890,30	14.617.296.907,36	17.202.397.785,65	19.881.058.218,46
c=4				1.774.466.404,38	2.519.362.192,53	3.488.743.914,96	4.911.758.388,13	6.694.039.806,41	8.707.975.379,70	11.427.232.822,89	13.689.196.091,40	16.070.227.587,23
c=5					2.134.500.342,86	2.619.191.204,08	3.567.867.519,52	4.904.578.583,23	6.515.727.041,86	8.781.774.911,19	10.720.600.569,91	12.804.003.128,76
c=6						2.620.282.323,81	3.094.620.481,53	3.985.761.190,68	5.194.122.534,65	7.006.960.830,11	8.622.648.879,04	10.408.422.500,91
c=7							2.862.627.754,42	3.308.198.108,99	4.113.772.338,31	5.473.401.059,90	6.765.951.499,05	8.254.096.183,94
c=8								3.336.965.912,14	3.739.753.026,80	4.646.172.174,53	5.615.585.003,89	6.806.100.751,80
c=9									3.571.194.912,66	4.024.404.486,53	4.670.679.706,10	5.563.566.517,03
c=10										3.973.982.027,31	4.297.119.637,10	4.892.377.511,05
c=11											4.283.581.680,54	4.581.210.617,52
c=12												4.606.719.290,33

Keterangan: ■ = Optimal

- Gypsum

**Tabel Lampiran 6 Rekapitulasi Biaya Minimum Gypsum**

	e=1	e=2	e=3	e=4	e=5	e=6	e=7	e=8	e=9	e=10	e=11	e=12
c=1	9.907.500,00	17.244.182,47	29.929.000,93	48.548.217,53	78.344.049,06	102.578.592,12	131.038.881,58	162.228.806,40	194.451.775,57	235.240.637,22	267.554.398,20	300.293.581,27
c=2		19.815.000,00	26.157.409,23	38.570.220,30	60.917.093,95	80.304.728,39	104.021.636,28	130.755.857,55	158.950.955,58	195.207.721,49	224.290.106,37	254.053.000,07
c=3			23.483.341,23	29.689.746,77	44.587.662,53	59.128.388,36	78.101.914,67	100.380.432,40	124.547.659,28	156.272.329,45	182.123.338,23	208.909.942,56
c=4				29.825.750,46	37.274.708,34	46.968.525,57	61.198.670,30	79.021.484,48	99.160.840,21	126.353.414,65	148.973.047,33	172.783.362,29
c=5					36.494.044,00	41.340.952,61	50.827.715,77	64.194.826,40	80.306.310,99	102.966.789,68	122.355.046,27	143.189.071,86
c=6						43.457.729,40	48.201.110,98	57.112.518,07	69.196.131,51	87.324.514,46	103.481.394,95	121.339.131,17
c=7							48.304.638,01	61.959.426,68	60.816.083,85	74.412.371,06	87.337.875,46	102.219.322,31
c=8								53.568.379,88	57.596.251,03	66.660.442,50	76.354.570,80	88.259.728,28
c=9									60.192.623,73	64.724.719,47	71.187.471,66	80.116.339,77
c=10										64.467.860,93	67.699.237,03	73.651.815,77
c=11											70.021.911,19	72.998.200,56
c=12												74.868.975,34

Keterangan: ■ = Optimal

- Kapur

**Tabel Lampiran 5 Rekapitulasi Biaya Minimum Kapur**

	e=1	e=2	e=3	e=4	e=5	e=6	e=7	e=8	e=9	e=10	e=11	e=12
c=1	12.513.500,00	86.718.802,65	215.016.680,80	403.336.757,32	704.700.310,47	949.815.403,14	1.237.670.902,28	1.553.134.713,32	1.879.047.030,09	2.291.597.230,76	2.618.427.841,80	2.949.561.293,40
c=2		25.027.000,00	89.175.939,07	214.722.656,75	440.745.321,62	636.837.395,75	876.716.978,37	1.147.114.530,69	1.432.287.807,87	1.798.999.097,35	2.093.146.647,29	2.394.177.057,83
c=3			37.540.500,00	100.313.858,84	250.995.635,41	398.064.691,02	589.968.357,11	815.299.650,71	1.059.733.888,29	1.380.606.266,59	1.642.070.755,42	1.912.998.124,91
c=4				50.054.000,00	125.394.888,29	223.440.925,36	367.368.674,93	547.633.709,81	751.328.907,79	1.026.362.374,90	1.255.143.802,63	1.495.968.131,07
c=5					62.567.500,00	111.590.518,53	207.542.351,58	342.741.127,74	505.697.286,13	734.891.842,05	930.990.208,68	1.141.711.496,06
c=6						75.081.000,00	123.056.916,52	213.189.433,96	335.406.552,75	518.762.197,49	682.177.503,01	862.795.749,34
c=7							87.594.500,00	132.660.758,72	214.138.837,91	351.655.571,47	482.387.815,89	632.903.021,16
c=8								100.108.000,00	140.847.039,60	232.524.861,97	330.574.045,28	450.986.209,50
c=9									112.621.500,00	158.460.411,19	223.826.533,39	314.135.656,56
c=10										125.135.000,00	157.818.061,10	218.024.143,21
c=11											137.648.500,00	167.751.541,05
c=12												150.162.000,00

Keterangan: ■ = Optimal

- Semen

**Tabel Lampiran 5 Rekapitulasi Biaya Minimum Semen**

	e=1	e=2	e=3	e=4	e=5	e=6	e=7	e=8	e=9	e=10	e=11	e=12
c=1	57.758.913,41	268.426.509,91	632.662.011,43	1.167.299.516,81	2.022.865.536,34	2.718.743.129,95	3.535.960.013,11	4.431.556.425,80	5.356.815.969,18	6.528.038.996,50	7.455.905.561,74	8.395.987.818,40
c=2		115.517.826,82	297.635.577,58	654.060.581,17	1.295.735.095,82	1.852.437.170,70	2.533.451.240,00	3.301.105.308,02	4.110.707.408,48	5.151.794.543,87	5.986.874.452,59	6.841.494.685,92
c=3			173.276.740,23	351.489.242,02	779.272.251,79	1.196.798.807,95	1.741.610.063,39	2.381.321.786,74	3.075.266.444,28	3.986.217.687,75	4.728.510.939,94	5.497.669.149,93
c=4				231.035.653,64	444.927.158,52	723.278.195,96	1.131.886.637,54	1.643.656.016,22	2.221.943.230,84	3.002.758.582,38	3.652.265.178,06	4.335.961.364,72
c=5					288.794.567,05	427.970.085,77	700.375.713,49	1.084.202.747,50	1.546.832.519,19	2.197.511.978,81	2.754.231.917,96	3.352.466.081,29
c=6						346.553.480,46	482.756.294,32	738.640.983,66	1.085.613.312,43	1.606.156.880,13	2.070.090.162,75	2.582.862.302,74
c=7							404.312.393,87	532.254.738,54	763.569.624,39	1.153.977.300,16	1.525.123.926,26	1.952.434.042,92
c=8								462.071.307,28	577.728.750,20	838.000.534,05	1.116.360.503,62	1.458.208.596,95
c=9									519.830.220,69	649.966.112,61	835.539.425,66	1.091.925.495,66
c=10										577.589.134,10	670.375.790,62	841.299.837,29
c=11											635.348.047,51	720.810.070,84
c=12												681.741.375,77

Keterangan: ■ = Optimal

- Aluminium

**Tabel Lampiran 5 Rekapitulasi Biaya Minimum Aluminium**

Periode	e=1	e=2	e=3	e=4	e=5	e=6	e=7	e=8	e=9	e=10	e=11	e=12
c=1	8.880.192,91	9.980.695,28	11.883.418,05	14.676.300,54	19.145.675,27	22.780.856,73	27.049.900,15	31.728.388,87	36.561.834,25	42.680.163,49	47.527.227,64	52.438.105,10
c=2		17.760.385,82	18.711.747,20	20.573.668,87	23.925.699,91	26.833.845,08	30.391.381,26	34.401.514,45	38.630.779,16	44.069.294,04	48.431.651,78	52.896.085,83
c=3			18.310.637,00	19.241.597,83	21.476.285,19	23.657.394,07	26.503.423,02	29.845.200,68	33.470.284,71	38.228.985,23	42.106.636,55	46.124.627,20
c=4				19.261.998,39	20.379.342,07	21.833.414,66	23.967.936,37	26.641.358,49	29.662.261,85	33.741.148,02	37.134.092,92	40.705.640,16
c=5					20.658.439,63	21.385.475,92	22.808.490,39	24.813.556,99	27.230.279,68	30.629.351,48	33.537.589,97	36.662.693,81
c=6						22.893.127,00	23.604.634,24	24.941.345,30	26.753.887,32	29.473.144,76	31.896.676,83	34.575.337,27
c=7							24.710.717,73	25.379.073,26	26.587.434,61	28.626.877,69	30.565.703,35	32.797.920,37
c=8								26.845.239,44	27.449.420,11	28.809.048,83	30.263.168,08	32.048.941,70
c=9									29.184.483,80	29.864.298,16	30.833.710,99	32.173.041,21
c=10										31.601.206,49	32.085.912,90	32.978.799,72
c=11											34.524.088,47	34.970.531,88
c=12												35.978.207,71

Keterangan: ■ = Optimal

## Lampiran 7

Lampiran 7 berisi MRP untuk semua bahan baku Bata Ringan AAC 10cm berdasarkan metode *Wagner-Within Algorithm*. Berikut ini merupakan MRP untuk semua bahan baku Bata Ringan AAC 10cm:

- Pasir Silika

**Tabel Lampiran 7 MRP Pasir Silika dengan *Wagner-Within Algorithm***

Pasir Silika	Periode						
	1	2	3	4	5	6	7
GR	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	2.865.424,64	1.864.482,46	1.824.658,25
SR							
OI	0	0	0	0	1.864.482,46	0	1.713.995,82
NR							
PORec	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	4.729.907,10		3.538.654,07
PORel	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	4.729.907,10		3.538.654,07
Pasir Silika	Periode					Total	
	8	9	10	11	12		
GR	1.713.995,82	1.549.419,58	1.743.381,96	1.243.028,20	1.144.902,82	<b>22.901.190,11</b>	
SR							
OI	0	0	0	1.144.902,82	0	<b>4.723.381,11</b>	
NR							
PORec		1.549.419,58	1.743.381,96	2.387.931,02		<b>22.901.190,11</b>	
PORel		1.549.419,58	1.743.381,96	2.387.931,02		<b>22.901.190,11</b>	

- Gypsum

**Tabel Lampiran 7 MRP Gypsum dengan *Wagner-Within Algorithm***

Gypsum	Periode						
	1	2	3	4	5	6	7
GR	13.024,51	28.222,35	24.397,64	23.874,46	28.654,25	18.644,82	18.246,58
SR							
OI	28.222,35	0	23.874,46	0	18.644,82	0	0
NR							
PORec	41.246,87		48.272,10		47.299,07		18.246,58
PORel	41.246,87		48.272,10		47.299,07		18.246,58
Gypsum	Periode					Total	
	8	9	10	11	12		
GR	17.139,96	15.494,20	17.433,82	12.430,28	11.449,03	<b>229.011,90</b>	
SR							
OI	15.494,20	0	12.430,28	0	0	<b>98.666,12</b>	
NR							
PORec	32.634,15		29.864,10		11.449,03	<b>229.011,90</b>	
PORel	32.634,15		29.864,10		11.449,03	<b>229.011,90</b>	

- Kapur

**Tabel Lampiran 7 MRP Kapur dengan Wagner-Within Algorithm**

Kapur	Periode						
	1	2	3	4	5	6	7
GR	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
PORel	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
Kapur	Periode					Total	
	8	9	10	11	12		
GR	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
PORel	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	

- Semen

**Tabel Lampiran 7 MRP Semen dengan Wagner-Within Algorithm**

Semen	Periode						
	1	2	3	4	5	6	7
GR	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
PORel	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
Semen	Periode					Total	
	8	9	10	11	12		
GR	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
PORel	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	

- Aluminium

**Tabel Lampiran 7 MRP Aluminium dengan Wagner-Within Algorithm**

Aluminium	Periode						
	1	2	3	4	5	6	7
<b>GR</b>	1.953,68	4.233,35	3.659,65	3.581,17	4.298,14	2.796,72	2.736,99
<b>SR</b>							
<b>OI</b>	15.772,30	11.538,95	7.879,31	4.298,14	0	5.307,98	2.570,99
<b>NR</b>							
<b>PORec</b>	17.725,98					8.104,70	
<b>PORel</b>	17.725,98					8.104,70	
Aluminium	Periode					Total	
	8	9	10	11	12		
<b>GR</b>	2.570,99	2.324,13	2.615,07	1.864,54	1.717,35	<b>34.351,79</b>	
<b>SR</b>							
<b>OI</b>	0	2.615,07	0	1.717,35	0	<b>51.700,10</b>	
<b>NR</b>							
<b>PORec</b>		4.939,20		3.581,90		<b>34.351,79</b>	
<b>PORel</b>		4.939,20		3.581,90		<b>34.351,79</b>	

## Lampiran 8

Lampiran 8 berisi hasil perhitungan *lot size* untuk semua bahan baku Bata Ringan AAC 10cm berdasarkan metode *Silver-Meal Algorithm*. Berikut ini merupakan hasil perhitungan *lot size* untuk semua bahan baku Bata Ringan AAC 10cm:

- Pasir Silika

**Tabel Lampiran 8 Hasil Perhitungan Lot Size Pasir Silika menggunakan Silver-Meal Algorithm**

Kombinasi Periode	Permintaan Kumulatif (pcs)	Total Biaya (Rp)	Rata-rata Total Biaya per Periode (Rp)
1	1.302.451,38	485.781.980,95	485.781.980,95
1,2	4.124.686,52	1.219.437.024,85	609.718.512,43
2	2.822.235,14	485.781.980,95	485.781.980,95
2,3	5.261.998,65	1.120.011.490,62	560.005.745,31
3	2.439.763,51	485.781.980,95	485.781.980,95
3,4	4.827.209,87	1.106.411.365,81	553.205.682,91
4	2.387.446,35	485.781.980,95	485.781.980,95
4,5	5.252.870,99	1.230.664.364,44	615.332.182,22
5	2.865.424,64	485.781.980,95	485.781.980,95
5,6	4.729.907,10	970.464.119,99	485.232.059,99
5,6,7	6.554.565,35	1.919.123.363,66	639.707.787,89
7	1.824.658,25	485.781.980,95	485.781.980,95
7,8	3.538.654,07	931.344.317,33	465.672.158,66
7,8,9	5.088.073,65	1.736.904.050,05	578.968.016,68
9	1.549.419,58	485.781.980,95	485.781.980,95
9,10	3.292.801,54	938.983.399,15	469.491.699,58
9,10,11	4.535.829,74	1.585.246.988,78	528.415.662,93
11	1.243.028,20	485.781.980,95	485.781.980,95
11,12	2.387.931,02	783.405.561,99	391.702.781,00

Keterangan: ■ = Optimal

- Gypsum

**Tabel Lampiran 8 Hasil Perhitungan Lot Size Gypsum menggunakan Silver-Meal Algorithm**

Kombinasi Periode	Permintaan Kumulatif (pcs)	Total Biaya (Rp)	Rata-rata Total Biaya per Periode (Rp)
1	13.024,51	9.907.500,00	9.907.500,00
1,2	41.246,87	17.244.050,44	8.622.025,22
1,2,3	65.644,50	29.928.640,63	9.976.213,54
3	24.397,64	9.907.500,00	9.907.500,00
3,4	48.272,10	16.113.793,85	8.056.896,92
3,4,5	76.926,35	31.011.441,52	10.337.147,17
5	28.654,25	9.907.500,00	9.907.500,00
5,6	47.299,07	14.754.321,39	7.377.160,70
5,6,7	65.545,65	24.240.913,83	8.080.304,61
7	18.246,58	9.907.500,00	9.907.500,00
7,8	35.386,54	14.363.123,36	7.181.561,68



**Lanjutan Tabel Lampiran 8 Hasil Perhitungan Lot Size Gypsum menggunakan Silver-Meal Algorithm**

7,8,9	50.880,74	22.418.720,69	7.472.906,90
9	15.494,20	9.907.500,00	9.907.500,00
9,10	32.928,02	14.439.514,18	7.219.757,09
9,10,11	45.358,30	20.902.150,08	6.967.383,36
9,10,11,12	56.807,33	29.830.857,51	7.457.714,38
12	11.449,03	9.907.500,00	9.907.500,00

Keterangan: ■ = Optimal

- Kapur

**Tabel Lampiran 8 Hasil Perhitungan Lot Size Kapur menggunakan Silver-Meal Algorithm**

Kombinasi Periode	Permintaan Kumulatif (pcs)	Total Biaya (Rp)	Rata-rata Total Biaya per Periode (Rp)
1	131.733,65	12.513.500,00	12.513.500,00
1,2	417.182,58	86.717.467,30	43.358.733,65
2	285.448,93	12.513.500,00	12.513.500,00
2,3	532.213,58	76.661.284,69	38.330.642,35
3	246.764,65	12.513.500,00	12.513.500,00
3,4	488.237,80	75.285.729,21	37.642.864,61
4	241.473,15	12.513.500,00	12.513.500,00
4,5	531.290,38	87.853.032,50	43.926.516,25
5	289.817,23	12.513.500,00	12.513.500,00
5,6	478.396,32	61.535.636,35	30.767.818,17
6	188.579,08	12.513.500,00	12.513.500,00
6,7	373.130,23	60.488.553,18	30.244.276,59
7	184.551,15	12.513.500,00	12.513.500,00
7,8	357.909,58	57.578.947,74	28.789.473,87
8	173.358,43	12.513.500,00	12.513.500,00
8,9	330.071,16	53.251.806,48	26.625.903,24
9	156.712,72	12.513.500,00	12.513.500,00
9,10	333.043,36	58.351.586,30	29.175.793,15
10	176.330,63	12.513.500,00	12.513.500,00
10,11	302.054,06	45.195.972,96	22.597.986,48
11	125.723,42	12.513.500,00	12.513.500,00
11,12	241.522,17	42.615.999,34	21.307.999,67
12	115.798,74	12.513.500,00	12.513.500,00

Keterangan: ■ = Optimal

- Semen

**Tabel Lampiran 8 Hasil Perhitungan Lot Size Semen menggunakan Silver-Meal Algorithm**

Kombinasi Periode	Permintaan Kumulatif (pcs)	Total Biaya (Rp)	Rata-rata Total Biaya per Periode (Rp)
1	373.989,61	57.758.913,41	57.758.913,41
1,2	1.184.374,27	268.422.718,88	134.211.359,44
2	810.384,66	57.758.913,41	57.758.913,41
2,3	1.510.945,33	239.873.386,90	119.936.693,45
3	700.560,67	57.758.913,41	57.758.913,41

**Lanjutan Tabel Lampiran 8 Hasil Perhitungan Lot Size Semen menggunakan Silver-Meal Algorithm**

3,4	1.386.098,83	235.968.208,21	117.984.104,10
4	685.538,17	57.758.913,41	57.758.913,41
4,5	1.508.324,38	271.646.569,24	135.823.284,62
5	822.786,22	57.758.913,41	57.758.913,41
5,6	1.358.159,04	196.931.927,62	98.465.963,81
6	535.372,82	57.758.913,41	57.758.913,41
6,7	1.059.310,40	193.959.276,26	96.979.638,13
7	523.937,58	57.758.913,41	57.758.913,41
7,8	1.016.099,24	185.698.955,72	92.849.477,86
8	492.161,66	57.758.913,41	57.758.913,41
8,9	937.066,42	173.414.275,04	86.707.137,52
9	444.904,77	57.758.913,41	57.758.913,41
9,10	945.504,44	187.892.463,50	93.946.231,75
10	500.599,68	57.758.913,41	57.758.913,41
10,11	857.526,34	150.543.900,21	75.271.950,10
11	356.926,67	57.758.913,41	57.758.913,41
11,12	685.677,33	143.219.398,83	71.609.699,41
12	328.750,67	57.758.913,41	57.758.913,41

Keterangan: ■ = Optimal

- Aluminium

**Tabel Lampiran 8 Hasil Perhitungan Lot Size Aluminium menggunakan Silver-Meal Algorithm**

Kombinasi Periode	Permintaan Kumulatif (pcs)	Total Biaya (Rp)	Rata-rata Total Biaya per Periode (Rp)
1	1.953,68	8.880.192,91	8.880.192,91
1,2	6.187,03	9.980.675,47	4.990.337,74
1,2,3	9.846,68	11.883.364,00	3.961.121,33
1,2,3,4	13.427,84	14.676.196,23	3.669.049,06
1,2,3,4,5	17.725,98	19.145.490,54	3.829.098,11
5	4.298,14	8.880.192,91	8.880.192,91
5,6	7.094,86	9.607.216,12	4.803.608,06
5,6,7	9.831,85	11.030.204,98	3.676.734,99
5,6,7,8	12.402,84	13.035.235,50	3.258.808,87
5,6,7,8,9	14.726,97	15.451.914,69	3.090.382,94
5,6,7,8,9,10	17.342,04	18.850.925,33	3.141.820,89
10	2.615,07	8.880.192,91	8.880.192,91
10,11	4.479,62	9.364.890,60	4.682.445,30
10,11,12	6.196,97	10.257.761,34	3.419.253,78

Keterangan: ■ = Optimal

## Lampiran 9

Lampiran 9 berisi MRP untuk semua bahan baku Bata Ringan AAC 10cm berdasarkan metode *Silver-Meal Algorithm*. Berikut ini merupakan MRP untuk semua bahan baku Bata Ringan AAC 10cm:

- Pasir Silika

**Tabel Lampiran 7 MRP Pasir Silika dengan *Silver-Meal Algorithm***

Pasir Silika	Periode						
	1	2	3	4	5	6	7
GR	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	2.865.424,64	1.864.482,46	1.824.658,25
SR							
OI	0	0	0	0	1.864.482,46	0	1.713.995,82
NR							
PORec	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	4.729.907,10		3.538.654,07
PORel	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	4.729.907,10		3.538.654,07
Pasir Silika	Periode					Total	
	8	9	10	11	12		
GR	1.713.995,82	1.549.419,58	1.743.381,96	1.243.028,20	1.144.902,82	<b>22.901.190,11</b>	
SR							
OI	0	1.743.381,96	0	1.144.902,82	0	<b>6.466.763,07</b>	
NR							
PORec		3.292.801,54		2.387.931,02		<b>22.901.190,11</b>	
PORel		3.292.801,54		2.387.931,02		<b>22.901.190,11</b>	

- Gypsum

**Tabel Lampiran 7 MRP Gypsum dengan *Silver-Meal Algorithm***

Gypsum	Periode						
	1	2	3	4	5	6	7
GR	13.024,51	28.222,35	24.397,64	23.874,46	28.654,25	18.644,82	18.246,58
SR							
OI	28.222,35	0	23.874,46	0	18.644,82	0	17.139,96
NR							
PORec	41.246,87		48.272,10		47.299,07		35.386,54
PORel	41.246,87		48.272,10		47.299,07		35.386,54
Gypsum	Periode					Total	
	8	9	10	11	12		
GR	17.139,96	15.494,20	17.433,82	12.430,28	11.449,03	<b>229.011,90</b>	
SR							
OI	0	29.864,10	12.430,28	0	0	<b>130.175,98</b>	
NR							
PORec		45.358,30			11.449,03	<b>229.011,90</b>	
PORel		45.358,30			11.449,03	<b>229.011,90</b>	

- Kapur

**Tabel Lampiran 7 MRP Kapur dengan *Silver-Meal Algorithm***

Kapur	Periode						
	1	2	3	4	5	6	7
GR	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
PORel	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
Kapur	Periode					Total	
	8	9	10	11	12		
GR	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
PORel	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	

- Semen

**Tabel Lampiran 7 MRP Semen dengan *Silver-Meal Algorithm***

Semen	Periode						
	1	2	3	4	5	6	7
GR	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
PORel	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
Semen	Periode					Total	
	8	9	10	11	12		
GR	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
PORel	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	

- Aluminium

**Tabel Lampiran 7 MRP Aluminium dengan *Silver-Meal Algorithm***

Aluminium	Periode						
	1	2	3	4	5	6	7
<b>GR</b>	1.953,68	4.233,35	3.659,65	3.581,17	4.298,14	2.796,72	2.736,99
<b>SR</b>							
<b>OI</b>	11.474,17	7.240,81	3.581,17	0	10.428,83	7.632,11	4.895,12
<b>NR</b>							
<b>PORec</b>	13.427,84				14.726,97		
<b>PORel</b>	13.427,84				14.726,97		
Aluminium	Periode					Total	
	8	9	10	11	12		
<b>GR</b>	2.570,99	2.324,13	2.615,07	1.864,54	1.717,35	<b>34.351,79</b>	
<b>SR</b>							
<b>OI</b>	2.324,13	0	3.581,90	1.717,35	0	<b>52.875,60</b>	
<b>NR</b>							
<b>PORec</b>			6.196,97			<b>34.351,79</b>	
<b>PORel</b>			6.196,97			<b>34.351,79</b>	

## Lampiran 10

Lampiran 10 berisi MRP untuk semua bahan baku Bata Ringan AAC 10cm berdasarkan metode *Lot for Lot*. Berikut ini merupakan MRP untuk semua bahan baku Bata Ringan AAC 10cm:

- Pasir Silika

**Tabel Lampiran 7 MRP Pasir Silika dengan *Lot for Lot***

Pasir Silika	Periode						
	1	2	3	4	5	6	7
<b>GR</b>	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	2.865.424,64	1.864.482,46	1.824.658,25
<b>SR</b>							
<b>OI</b>	0	0	0	0	0	0	0
<b>NR</b>							
<b>PORec</b>	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	2.865.424,64	1.864.482,46	1.824.658,25
<b>PORel</b>	1.302.451,38	2.822.235,14	2.439.763,51	2.387.446,35	2.865.424,64	1.864.482,46	1.824.658,25
Pasir Silika	Periode					Total	
	8	9	10	11	12		
<b>GR</b>	1.713.995,82	1.549.419,58	1.743.381,96	1.243.028,20	1.144.902,82	<b>22.901.190,11</b>	
<b>SR</b>							
<b>OI</b>	0	0	0	0	0	<b>0</b>	
<b>NR</b>							
<b>PORec</b>	1.713.995,82	1.549.419,58	1.743.381,96	1.243.028,20	1.144.902,82	<b>22.901.190,11</b>	
<b>PORel</b>	1.713.995,82	1.549.419,58	1.743.381,96	1.243.028,20	1.144.902,82	<b>22.901.190,11</b>	

- Gypsum

**Tabel Lampiran 7 MRP Gypsum dengan *Lot for Lot***

Gypsum	Periode						
	1	2	3	4	5	6	7
<b>GR</b>	13.024,51	28.222,35	24.397,64	23.874,46	28.654,25	18.644,82	18.246,58
<b>SR</b>							
<b>OI</b>	0	0	0	0	0	0	0
<b>NR</b>							
<b>PORec</b>	13.024,51	28.222,35	24.397,64	23.874,46	28.654,25	18.644,82	18.246,58
<b>PORel</b>	13.024,51	28.222,35	24.397,64	23.874,46	28.654,25	18.644,82	18.246,58
Gypsum	Periode					Total	
	8	9	10	11	12		
<b>GR</b>	17.139,96	15.494,20	17.433,82	12.430,28	11.449,03	<b>229.011,90</b>	
<b>SR</b>							
<b>OI</b>	0	0	0	0	0	<b>0</b>	
<b>NR</b>							
<b>PORec</b>	17.139,96	15.494,20	17.433,82	12.430,28	11.449,03	<b>229.011,90</b>	
<b>PORel</b>	17.139,96	15.494,20	17.433,82	12.430,28	11.449,03	<b>229.011,90</b>	

- Kapur

**Tabel Lampiran 7 MRP Kapur dengan Lot for Lot**

Kapur	Periode						
	1	2	3	4	5	6	7
GR	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
PORel	131.733,65	285.448,93	246.764,65	241.473,15	289.817,23	188.579,08	184.551,15
Kapur	Periode					Total	
	8	9	10	11	12		
GR	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	
PORel	173.358,43	156.712,72	176.330,63	125.723,42	115.798,74	<b>2.316.291,80</b>	

- Semen

**Tabel Lampiran 7 MRP Semen dengan Lot for Lot**

Semen	Periode						
	1	2	3	4	5	6	7
GR	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
SR							
OI	0	0	0	0	0	0	0
NR							
PORec	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
PORel	373.989,61	810.384,66	700.560,67	685.538,17	822.786,22	535.372,82	523.937,58
Semen	Periode					Total	
	8	9	10	11	12		
GR	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
SR							
OI	0	0	0	0	0	<b>0</b>	
NR							
PORec	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	
PORel	492.161,66	444.904,77	500.599,68	356.926,67	328.750,67	<b>6.575.913,16</b>	

- Aluminium

**Tabel Lampiran 7 MRP Aluminium dengan *Lot for Lot***

Aluminium	Periode						
	1	2	3	4	5	6	7
<b>GR</b>	1.953,68	4.233,35	3.659,65	3.581,17	4.298,14	2.796,72	2.736,99
<b>SR</b>							
<b>OI</b>	0,00	0,00	0,00	0,00	0,00	0,00	0,00
<b>NR</b>							
<b>PORec</b>	1.953,68	4.233,35	3.659,65	3.581,17	4.298,14	2.796,72	2.736,99
<b>PORel</b>	1.953,68	4.233,35	3.659,65	3.581,17	4.298,14	2.796,72	2.736,99
Aluminium	Periode					Total	
	8	9	10	11	12		
<b>GR</b>	2.570,99	2.324,13	2.615,07	1.864,54	1.717,35	<b>34.351,79</b>	
<b>SR</b>							
<b>OI</b>	0,00	0,00	0,00	0,00	0,00	<b>0,00</b>	
<b>NR</b>							
<b>PORec</b>	2.570,99	2.324,13	2.615,07	1.864,54	1.717,35	<b>34.351,79</b>	
<b>PORel</b>	2.570,99	2.324,13	2.615,07	1.864,54	1.717,35	<b>34.351,79</b>	