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LAMPIRAN

1. Lampiran Perhitungan OTTV

Tabel Perhitungan Dinding bata finish cat

No.	Jenis Lapisan Tidak Tembus Cahaya	Tebal (m) (1)	k (2)	R (3)
				= (1)/(2)
1	Lapisan luar			0.044
2	Plester dinding lapisan luar	0.02	0.533	0.040
3	Bata merah	0.11	0.807	0.136
4	Plester dinding lapisan dalam	0.02	0.533	0.038
5	Permukaan dalam			0.120
Total R =				0.375
U value = 1/total R				2.66

Tabel Perhitungan Dinding bata finish Keramik 40x40cm

No.	Jenis Lapisan Tidak Tembus Cahaya	Tebal (m) (1)	k (2)	R (3)
				= (1)/(2)
1	Lapisan luar			0.044
2	Keramik	0.01	1.298	0.010
3	Plester dinding lapisan luar	0.015	0.533	0.028
4	Bata merah	0.11	0.807	0.136
5	Plester dinding lapisan dalam	0.015	0.533	0.028
6	Permukaan dalam	0.15		0.120
Total R =				0.364
U value = 1/total R				2.75

Tabel Perhitungan Dinding bata finish Keramik 40x40cm

No.	Jenis Lapisan Tembus Cahaya	Tebal (m) (1)	k (2)	R (3)
				= (1)/(2)
1	Lapisan luar			0.044
2	Kaca 8mm	0.008	1.053	0.008
3	Permukaan dalam			0.120
			Total R =	0.172
			U value = 1/total R	5.83

Tabel Perhitungan OTTV konduksi Melalui Dinding

NO	Elevasi	Luas Fasad (A) m ²	Faktor Penyerapan Matahari (α)	Total Luas Bukaannya (m ²)	Rasio Jendela terhadap Dinding (WWR)	(1-WWR)	Nilai W/m ² k (Uw)	Tdeq	OTTV	A*OTTV
		1	2	3	4	5	6	7	8	9
									$\frac{8}{2*5*6*7}$	$9=8*1$
1	Dinding Utara	259.98	0.88	14	0.05	0.95	2.66	10	22.18	5766.88
2	Diding Selatan	259.98	0.88	11.5	0.04	0.96	2.66	10	22.41	5825.49
3	Dinding barat	532.98	0.88	296.7	0.56	0.44	2.66	10	21.10	11247.08
4	Dinding Timur	450.91	0.88	103.5	0.23	0.77	2.66	10	18.06	8144.86

Konduksi Panas Melalui Dinding

NO	Elevasi	Luas Fasad	Total Luas Bukaan	Rasio Jendela terhadap Dinding	Nilai W/m ² k (U _w)	ΔT	OTTV	A*OTTV
		(A) m ²	(m ²)	(WWR)	(U _w)			
		1	2	3	4	5	6	7
							6= 3*4*5	7=6*1
1	Dinding Utara	259.98	14	0.05	5.83	5	1.57	407.93
2	Dinding Selatan	259.98	11.5	0.04	5.83	5	1.29	335.09
3	Dinding barat	532.98	296.7	0.56	5.83	5	16.22	8645.24
4	Dinding Timur	450.91	103.5	0.23	5.83	5	6.69	3015.78

Transmisi Radiasi Melalui Kaca

NO	Elevasi	Luas Fasad	Total Luas Bukaan	Rasio Jendela terhadap Dinding	Faktor Radiasi Matahari	Koefisien Peneduh	Koefisien Peneduh Efektif	Koefisien Peneduh	OTTV	A*OTTV
		(A) m ²	(m ²)	(WWR)	(SF)	(SC _k)	(SC _{eff})	(SC= SC _k *SC _{eff})		
		1	2	3	4	5	6	7	8	9
1	Dinding Utara	259.98	14	0.05	158			0.57	4.85	1260.84
2	Dinding Selatan	259.98	11.5	0.04	130			0.57	3.28	852.15
3	Dinding barat	532.98	296.7	0.56	228	0.57	0.47	0.27	71.43	38072.54
4	Dinding Timur	450.91	103.5	0.23	197	0.57	0.88	0.50	22.56	10171.59

Nilai OTTV Rata-Rata

Elevasi	Konduksi Panas Melalui Dinding	Konduksi Panas Melalui Jendela	Radiasi Matahari Melalui Jendela	Total	Luas	OTTV	Total OTTV
	(W)	(W)	(W)	(W)	(m ²)	(W/m ²)	(W/m ²)
1 Dinding Utara	5766.88	407.93	1260.84	7435.66	259.98	28.60	
2 Diding Selatan	5825.49	335.09	852.15	7012.73	259.98	26.97	
3 Dinding barat Dinding	11247.08	8645.24	38072.54	57964.86	532.98	108.76	52.91
4 Timur	8144.86	3015.78	10171.59	21332.23	450.91	47.31	

2.Lampiran Hasil Simulasi Nilai OTTV

Hasil Simulasi Orientasi Barat

	Eksisting	0	10	20	30	40	50
V 60	62.939	51.798	50.913	50.188	49.192	48.005	47.883
V 90		43.292	42.885	41.946	40.665	38.873	37.392
V 120		39.424	38.887	37.922	36.426	35.345	33.274
H 60		51.798	43.219	41.648	40.471	39.846	39.617
H 90		46.667	41.52	39.013	37.367	36.296	36.012
H 120		42.605	37.035	33.84	31.964	30.663	29.843
ET 60		41.241	36.382	35.303	34.74	34	
ET 90		32.271	30.381	29.071	28.039	27.295	
ET 120		28.556	26.868	25.538	24.541	23.956	

Hasil Simulasi Orientasi Timur

	Eksisting	0	10	20	30	40	50
V 60	80.088	72.014	69.855	69.52	65.59	65.187	63.376
V 90		67.3	66.627	65.259	63.585	61.64	59.491
V 120		63.716	62.918	61.236	59.12	56.125	52.872
H 60		58.251	54.656	52.2	49.772	49.412	49.546
H 90		45.94	45.695	42.586	40.208	38.293	38.171
H 120		43.958	40.377	37.794	35.886	34.685	33.942
ET 60		48.06	45.366	43.642	42.058	41.871	

ET 90	38.617	36.18	34.259	32.884	32.334
ET 120	33.074	31.263	30.087	29.273	28.912

Hasil Simulasi Orientasi Selatan

	Eksisting	0	10	20	30	40	50
V 60	61.352	56.634	56.3	55.859	55.245	54.422	53.628
V 90		55.693	55.315	54.725	53.852	52.76	51.237
V 120		53.31	53.157	52.602	51.612	50.403	48.669
H 60		54.623	52.713	51.183	49.911	49.286	46.804
H 90		51.717	49.389	47.328	45.789	44.668	44.361
H 120		49.846	47.251	45.085	43.849	42.362	41.086
ET 60		44.644	43.516	42.461	41.649	41.487	
ET 90		40.53	39.047	37.778	36.952	36.6	
ET 120		37.657	36.232	35.139	32.419	31.959	

Hasil Simulasi Orientasi Utara

	Eksisting	0	10	20	30	40	50
V 60	74.57	70.226	69.855	69.52	69.113	68.268	67.632
V 90		66.554	66.202	65.879	65.202	64.152	62.633
V 120		64.171	64.062	63.578	62.868	61.682	60.28
H 60		64.212	62.67	61.225	60.164	59.687	56.843
H 90		61.488	59.356	57.552	56.245	55.388	55.191
H 120		59.514	57.131	55.175	53.919	52.582	51.468
ET 60		54.033	52.949	51.985	51.375	51.326	
ET 90		49.816	48.557	47.468	46.863	46.621	
ET 120		47.005	45.768	44.779	41.77	41.49	

3.Lampiran Intesitas Konsumsi Listrik

Konsumsi Energi Listrik PT.IKI

Tahun	2018	2019	2020	2021	2022
JAN	42,951,004.00	44,181,422.00	42,154,847.00	37,300,912.00	38,667,678.00
FEB	38,016,296.00	33,499,745.00	59,549,474.00	36,916,644.00	30,197,203.00
MAR	47,306,705.00	44,423,439.00	48,181,561.00	39,752,236.00	30,658,596.00
APR	40,142,374.00	55,365,087.00	46,653,790.00	64,423,312.00	58,813,502.00
MAY	56,160,222.00	32,576,321.00	75,602,726.00	65,302,119.00	34,407,566.00
JUN	45,905,674.00	69,721,627.00	40,351,076.00	65,302,119.00	37,392,002.00
JUL	37,496,734.00	42,183,521.00	60,317,997.00	39,503,257.00	34,350,980.00
AUG	44,228,514.00	39,494,056.00	40,362,869.00	47,931,927.00	32,614,228.00
SEP	37,472,816.00	40,459,811.00	77,426,477.00	45,522,111.00	34,886,371.00
OCT	38,232,168.00	39,976,654.00	54,088,873.00	38,915,745.00	33,136,559.00
NOV	32,291,904.00	52,347,160.00	87,021,280.00	42,584,459.00	42,377,473.00
DEC	34,052,379.00	38,649,062.00	62,285,389.00	47,121,037.00	39,578,647.00
TOTAL PERTAHUN	494,256,790.00	532,877,905.00	693,996,359.00	570,575,878.00	447,080,805.00

4.Lampiran Perhitungan IKE

Tahun	BULAN	BIAYA LISTRIK (A)	Trif listrik 5501VA/220kVA (B)	PENGGUNAAN KWH (C) =(A/B=C)	PENGGUNAAN KWH/m2 (C/LB)
TAHUN 2018	JAN	42,951,004.00	1,467.28	29,272.53	24.33
	FEB	38,016,296.00	1,467.28	25,909.37	21.53
	MAR	47,306,705.00	1,467.28	32,241.09	26.79
	APR	40,142,374.00	1,467.28	27,358.36	22.74
	MAY	56,160,222.00	1,467.28	38,275.05	31.81
	JUN	45,905,674.00	1,467.28	31,286.24	26.00
	JUL	37,496,734.00	1,467.56	25,550.39	21.23
	AUG	44,228,514.00	1,467.56	30,137.45	25.05
	SEP	37,472,816.00	1,467.56	25,534.09	21.22
	OCT	38,232,168.00	1,467.56	26,051.52	21.65
	NOV	32,291,904.00	1,467.56	22,003.80	18.29
	DEC	34,052,379.00	1,467.56	23,203.40	19.28
TOTAL PENGGUNAAN PERTAHUN				336,823.30	279.92
TAHUN 2019	JAN	44,181,422.00	1,467.56	30,105.36	25.02
	FEB	33,499,745.00	1,467.56	22,826.83	18.97
	MAR	44,423,439.00	1,467.56	30,270.27	25.16
	APR	55,365,087.00	1,467.56	37,725.94	31.35

	MAY	32,576,321.00	1,467.56	22,197.61	18.45
	JUN	69,721,627.00	1,467.56	47,508.54	39.48
	JUL	42,183,521.00	1,467.56	28,743.98	23.89
	AUG	39,494,056.00	1,467.56	26,911.37	22.36
	SEP	40,459,811.00	1,467.56	27,569.44	22.91
	OCT	39,976,654.00	1,467.56	27,240.22	22.64
	NOV	52,347,160.00	1,467.56	35,669.52	29.64
	DEC	38,649,062.00	1,467.56	26,335.59	21.89
TOTAL PENGGUNAAN PERTAHUN				363,104.68	301.76
TAHUN 2020	JAN	42,154,847.00	1,467.56	28,724.45	23.87
	FEB	59,549,474.00	1,467.56	40,577.20	33.72
	MAR	48,181,561.00	1,467.56	32,831.07	27.28
	APR	46,653,790.00	1,467.56	31,790.04	26.42
	MAY	75,602,726.00	1,467.56	51,515.94	42.81
	JUN	40,351,076.00	1,467.56	27,495.35	22.85
	JUL	60,317,997.00	1,467.56	41,100.87	34.16
	AUG	40,362,869.00	1,467.28	27,508.63	22.86
	SEP	77,426,477.00	1,467.28	52,768.71	43.85
	OCT	54,088,873.00	1,467.28	36,863.36	30.64
	NOV	87,021,280.00	1,467.28	59,307.89	49.29
	DEC	62,285,389.00	1,467.28	42,449.56	35.28
TOTAL PENGGUNAAN PERTAHUN				472,933.07	393.03
TAHUN 2021	JAN	37,300,912.00	1,467.56	25,416.96	21.12
	FEB	36,916,644.00	1,467.56	25,155.12	20.91
	MAR	39,752,236.00	1,467.56	27,087.30	22.51
	APR	64,423,312.00	1,467.56	43,898.25	36.48
	MAY	65,302,119.00	1,467.56	44,497.07	36.98
	JUN	65,302,119.00	1,467.56	44,497.07	36.98
	JUL	39,503,257.00	1,467.56	26,917.64	22.37
	AUG	47,931,927.00	1,467.28	32,667.20	27.15
	SEP	45,522,111.00	1,467.28	31,024.83	25.78
	OCT	38,915,745.00	1,467.28	26,522.37	22.04
	NOV	42,584,459.00	1,467.28	29,022.72	24.12
	DEC	47,121,037.00	1,467.28	32,114.55	26.69
TOTAL PENGGUNAAN PERTAHUN				388,821.07	323.13
TAHUN 2021	JAN	38,667,678.00	1,467.56	26,348.28	21.90
	FEB	30,197,203.00	1,467.56	20,576.47	17.10
	MAR	30,658,596.00	1,467.56	20,890.86	17.36
	APR	58,813,502.00	1,467.56	40,075.71	33.30
	MAY	34,407,566.00	1,467.56	23,445.42	19.48
	JUN	37,392,002.00	1,467.56	25,479.03	21.17
	JUL	34,350,980.00	1,467.56	23,406.87	19.45
	AUG	32,614,228.00	1,467.28	22,227.68	18.47
	SEP	34,886,371.00	1,467.28	23,776.22	19.76
	OCT	33,136,559.00	1,467.28	22,583.66	18.77
	NOV	42,377,473.00	1,467.28	28,881.65	24.00
	DEC	39,578,647.00	1,467.28	26,974.16	22.42
TOTAL PENGGUNAAN PERTAHUN				304,666.01	253.19