

CARGA TERMICA

Project Name: SUPERINTENDENCIA POLICIA FEDERAL – ALAGOAS

Address: AV. WALTER ANANIAS, 705 – JARAGUA – MACEIO/AL

25/June/2020

VM PROJETOS

Heat load sum up table

(Upper:W, Lower:kcal/h)

Room name	Fl	Sys-tem	Qty. of rooms	Cooling				Heating				Floor area	Heat load per area	
				Indoor SH	Total	Selected	Time	Total	Selected	Humid.	Time		Cooling	Heating
				[W] (kcal/h)			[Hr]	[W] (kcal/h)		[kg/h]	[Hr]		[m2]	[W/m2] (kcal/hm2)
SALA ANALISTAS 1	1	1	1	2400 (2064)	4572 (3932)	5029 (4325)	13					16.4	306.7 (263.7)	
QUARTO	1	1	1	1211 (1041)	2287 (1967)	2516 (2164)	13					6.4	393.1 (338.0)	
CARTÓR. SECRET. 1	1	1	1	2433 (2092)	4093 (3520)	4502 (3872)	13					17.4	258.8 (222.5)	
SALA DELEGADO 1	1	1	1	1858 (1598)	3512 (3020)	3863 (3322)	13					16.5	234.1 (201.4)	
SALA ANALISTAS 2	1	1	1	3307 (2844)	5091 (4378)	5600 (4816)	9					19.6	285.7 (245.7)	
SALA DELEGADO 2	1	1	1	3329 (2863)	5039 (4334)	5543 (4767)	13					25.9	214.0 (184.0)	
CARTÓR. SECRET. 2	1	1	1	2199 (1891)	3841 (3303)	4225 (3634)	13					14.4	293.4 (252.3)	
SALA ANALISTAS 3	1	1	1	3206 (2757)	5985 (5147)	6584 (5662)	13					31.4	209.7 (180.3)	
CARTÓR. SECRET. 3	1	1	1	1923 (1654)	3562 (3063)	3918 (3370)	13					13.9	281.9 (242.4)	
SALA DELEGADO 3	1	1	1	2852 (2453)	4179 (3594)	4597 (3953)	9					12.5	367.8 (316.3)	
CARTÓR. SECRET. 4	1	1	1	1930 (1660)	3570 (3070)	3927 (3377)	13					14.1	278.5 (239.5)	
SALA DELEGADO 4	1	1	1	2947 (2534)	4283 (3683)	4711 (4052)	9					14.3	329.5 (283.3)	
SALA ANALISTAS 5	1	1	1	2752 (2367)	4979 (4282)	5477 (4710)	13					25.8	212.3 (182.6)	
CARTÓR. SECRET. 5	1	1	1	1517 (1305)	3156 (2714)	3472 (2986)	13					13.8	251.6 (216.3)	
SALA DELEGADO 5	1	1	1	3041 (2615)	4379 (3766)	4817 (4143)	9					14.7	327.7 (281.8)	
SALA ANALISTAS 6	1	1	1	2107 (1812)	4291 (3690)	4720 (4059)	13					18.4	256.5 (220.6)	
SALA DELEGADO 6	1	1	1	3158 (2716)	4741 (4077)	5215 (4485)	15					13.9	375.2 (322.7)	
CARTÓR. SECRET. 6	1	1	1	3089 (2657)	4667 (4014)	5134 (4415)	15					13.1	391.9 (337.0)	
SALA ANALISTAS 4	1	1	1	4760 (4094)	6929 (5959)	7622 (6555)	15					28.7	265.6 (228.4)	

SH : Sensible heat

Heat load sum up table

(Upper:W, Lower:kcal/h)

Room name	Fl	Sys-tem	Qty. of rooms	Cooling				Heating				Floor area	Heat load per area	
				Indoor SH	Total	Selected	Time	Total	Selected	Humid.	Time		Cooling	Heating
				[W] (kcal/h)			[Hr]	[W] (kcal/h)		[kg/h]	[Hr]		[m2]	[W/m2] (kcal/hm2)
SALA DELEGADO 7	1	1	1	2525 (2172)	4115 (3539)	4527 (3893)	15					15.1	299.8 (257.8)	
CARTÓR. SECRET. 7	1	1	1	3292 (2831)	4874 (4192)	5361 (4611)	15					13.8	388.5 (334.1)	
SALA ANALISTAS 7(1)	1	1	1	2670 (2296)	4868 (4186)	5355 (4605)	13					20.8	257.4 (221.4)	
SALA ANALISTAS 7(2)	1	1	1	3138 (2699)	5262 (4525)	5788 (4978)	15					20.7	279.6 (240.5)	
Peak load of building				23	58820 (50585)	100807 (86694)	110888 (95363)	14				401.6	276.1 (237.5)	

SH : Sensible heat

Table of system heat load

(Upper:W, Lower:kcal/h)

Sys -tem	Cooling							Heating						
	Time	F/A vol	Indoor SH	Indoor	Outside	Total	Selected	Time	F/A vol	Indoor	Outside	Total	Selected	Humid.
	[Hr]	[m3/h]	[W] (kcal/h)					[Hr]	[m3/h]	[W] (kcal/h)				
1	14	2079	58820 (50585)	67028 (57644)	33779 (29050)	100807 (86694)	110888 (95363)							

F/A : Fresh air
SH : Sensible heat

System	Room name	Floor	Rooms
1	SALA ANALISTAS 1	1	1
1	QUARTO	1	1
1	CARTÓR. SECRET. 1	1	1
1	SALA DELEGADO 1	1	1
1	SALA ANALISTAS 2	1	1
1	SALA DELEGADO 2	1	1
1	CARTÓR. SECRET. 2	1	1
1	SALA ANALISTAS 3	1	1
1	CARTÓR. SECRET. 3	1	1
1	SALA DELEGADO 3	1	1
1	CARTÓR. SECRET. 4	1	1
1	SALA DELEGADO 4	1	1
1	SALA ANALISTAS 5	1	1
1	CARTÓR. SECRET. 5	1	1
1	SALA DELEGADO 5	1	1
1	SALA ANALISTAS 6	1	1
1	SALA DELEGADO 6	1	1
1	CARTÓR. SECRET. 6	1	1
1	SALA ANALISTAS 4	1	1
1	SALA DELEGADO 7	1	1
1	CARTÓR. SECRET. 7	1	1
1	SALA ANALISTAS 7(1)	1	1
1	SALA ANALISTAS 7(2)	1	1

System	Room name	Floor	Rooms

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	4	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 1	1	1	1	Office	16.4	2.5	4	Summer 108.0/Winter ----

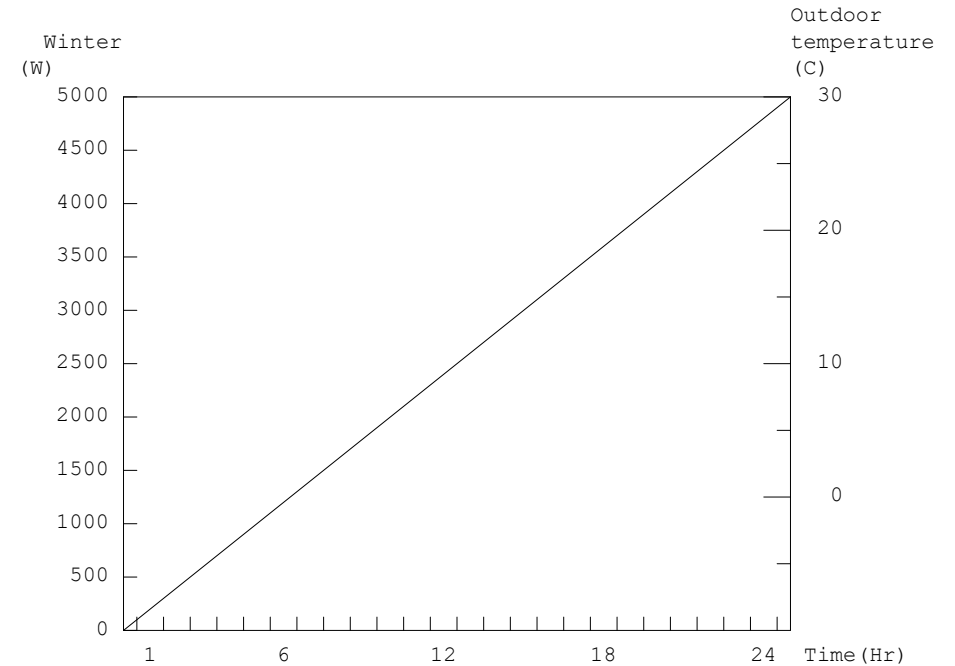
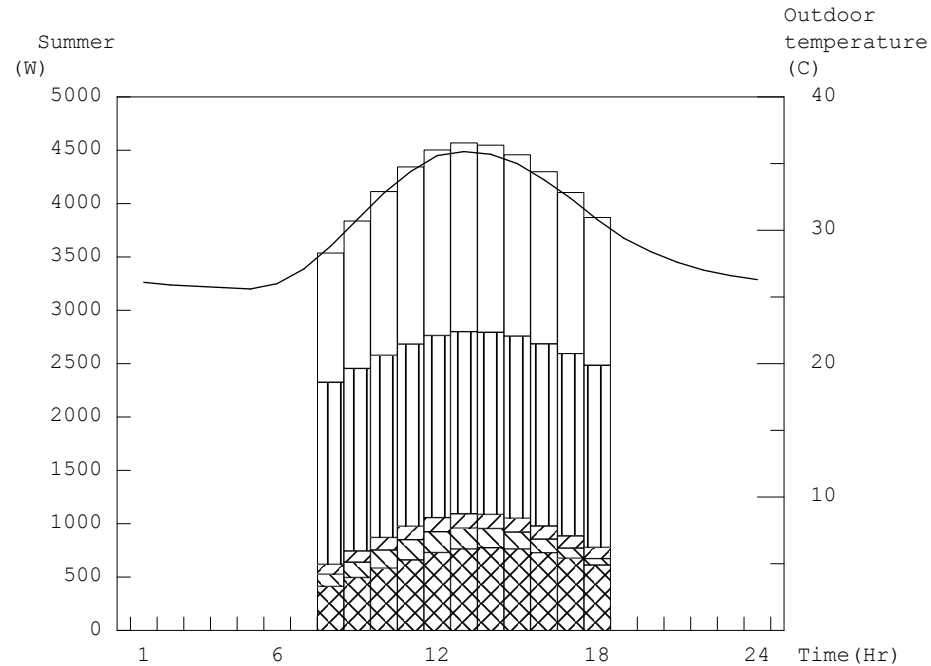
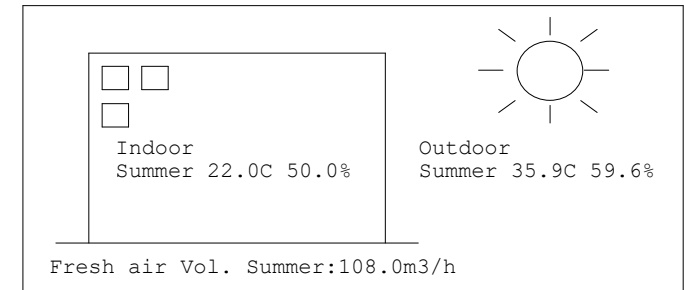
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	49	0	253	112	113	18	74	224	304	380	800	0	1949	378	1211	3538 (3043)
9	30.8	71.4	58	0	328	112	144	24	81	224	304	380	800	0	2070	385	1383	3838 (3301)
10	32.8	66.5	71	0	403	112	170	29	87	224	304	380	800	0	2189	391	1534	4114 (3538)
11	34.4	63.0	90	0	461	112	187	34	93	224	304	380	800	0	2288	397	1661	4346 (3738)
12	35.6	60.0	112	0	506	112	196	37	95	224	304	380	800	0	2367	399	1740	4506 (3875)
*13	35.9	59.6	135	0	518	112	193	38	97	224	304	380	800	0	2400	401	1771	4572 (3932)
14	35.7	60.0	154	0	510	112	179	37	96	224	304	380	800	0	2396	400	1755	4551 (3914)
15	35.0	61.5	170	0	484	112	157	35	94	224	304	380	800	0	2362	398	1701	4461 (3836)
16	33.8	64.3	178	0	439	112	128	32	91	224	304	380	800	0	2293	395	1614	4302 (3700)
17	32.4	67.7	179	0	387	112	94	28	87	224	304	380	800	0	2204	391	1511	4106 (3531)
18	30.8	71.4	173	0	328	112	61	24	81	224	304	380	800	0	2102	385	1383	3870 (3328)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 1	1	1	1	Office	16.4	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	135	0	518	112	193	38	97	224	304	380	800	0	1771	4572	5029
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer	27.0
	Winter	----
infiltration ventilation(Times/h)	Summer	0.20
	Winter	----
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting	Fluorescent lamp(W/m2)	20.0
	Incandescent lamp(W/m2)	0.0
No of persons		2
Depth of underground wall(m)		0.0
!Underground wall is valid only when outer wall is negative value.		
Humidifying method		-----
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall	<1>	2.72 III
Inner Wall	<1>	2.62
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor	Cooling	1.10
	Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
QUARTO	1	1	1	Office	6.4	2.5	2	Summer 54.0/Winter ----

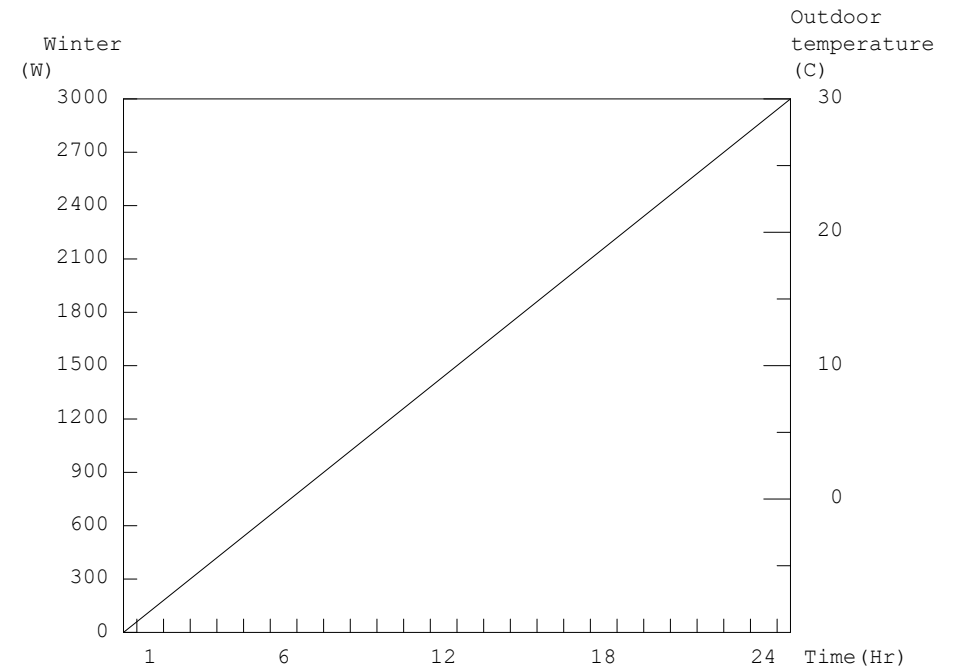
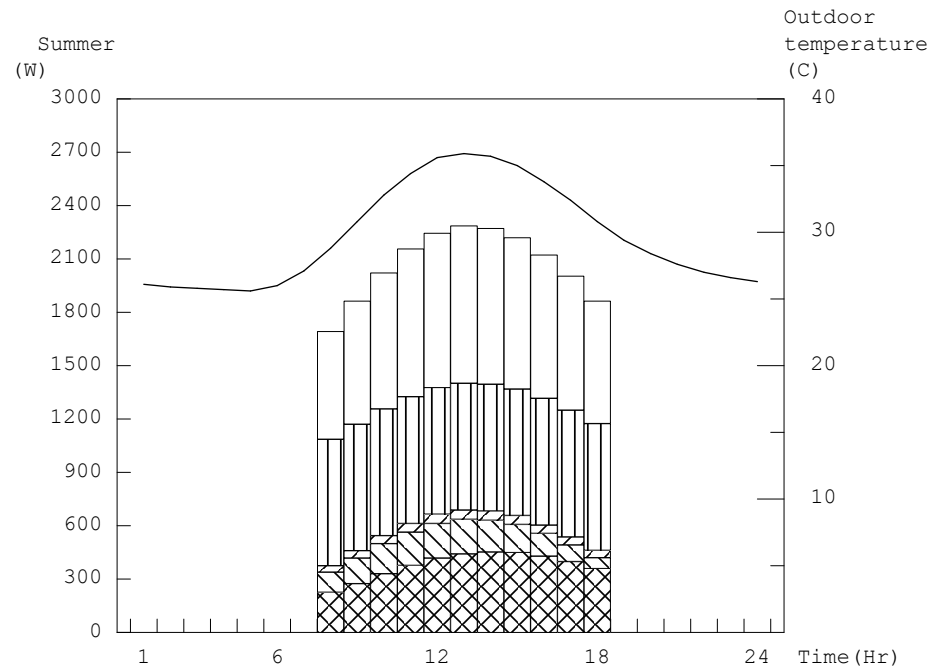
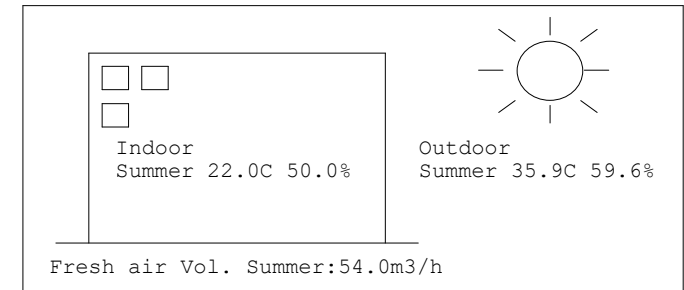
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	36	0	146	44	113	7	29	112	152	148	300	0	906	181	605	1692 (1455)
9	30.8	71.4	43	0	188	44	144	9	32	112	152	148	300	0	988	184	691	1863 (1602)
10	32.8	66.5	53	0	233	44	170	11	34	112	152	148	300	0	1071	186	766	2023 (1740)
11	34.4	63.0	67	0	267	44	187	13	36	112	152	148	300	0	1138	188	831	2157 (1855)
12	35.6	60.0	83	0	291	44	196	14	37	112	152	148	300	0	1188	189	869	2246 (1932)
*13	35.9	59.6	100	0	299	44	193	15	38	112	152	148	300	0	1211	190	886	2287 (1967)
14	35.7	60.0	115	0	294	44	179	14	38	112	152	148	300	0	1206	190	877	2273 (1955)
15	35.0	61.5	126	0	280	44	157	14	37	112	152	148	300	0	1181	189	851	2221 (1910)
16	33.8	64.3	132	0	254	44	128	12	35	112	152	148	300	0	1130	187	806	2123 (1826)
17	32.4	67.7	133	0	222	44	94	11	34	112	152	148	300	0	1064	186	755	2005 (1724)
18	30.8	71.4	128	0	188	44	61	9	32	112	152	148	300	0	990	184	691	1865 (1604)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
QUARTO	1	1	1	Office	6.4	2.5	2



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	100	0	299	44	193	15	38	112	152	148	300	0	886	2287	2516
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting	Fluorescent lamp(W/m2) 20.0	
	Incandescent lamp(W/m2) 0.0	
No of persons	3	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall	<1> 2.72	III
Inner Wall	<1> 2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor	Cooling 1.10	
	Heating ----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 1	1	1	1	Office	17.4	2.5	3	Summer 81.0/Winter ----

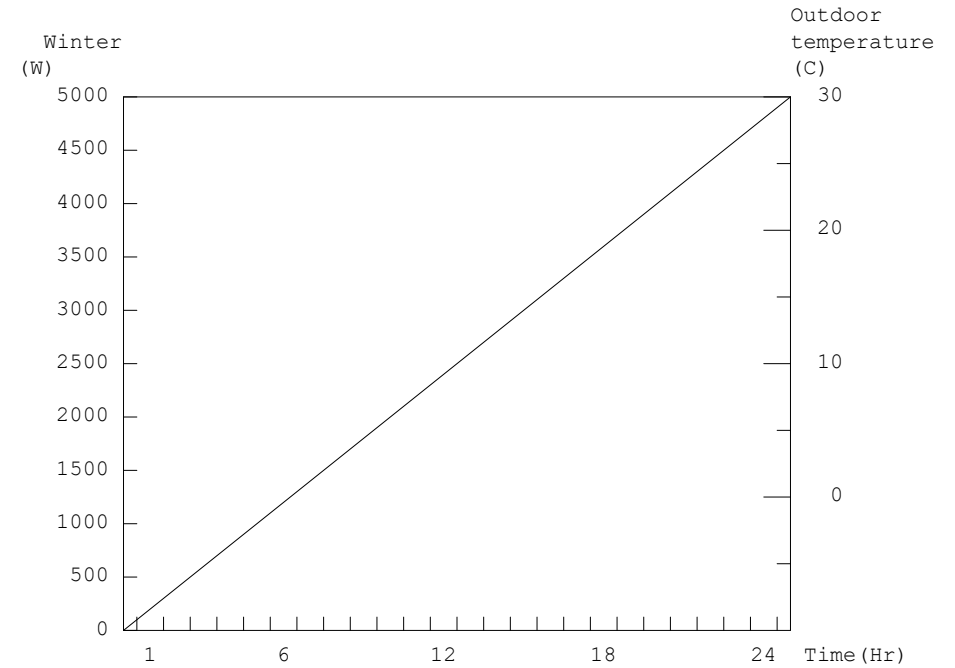
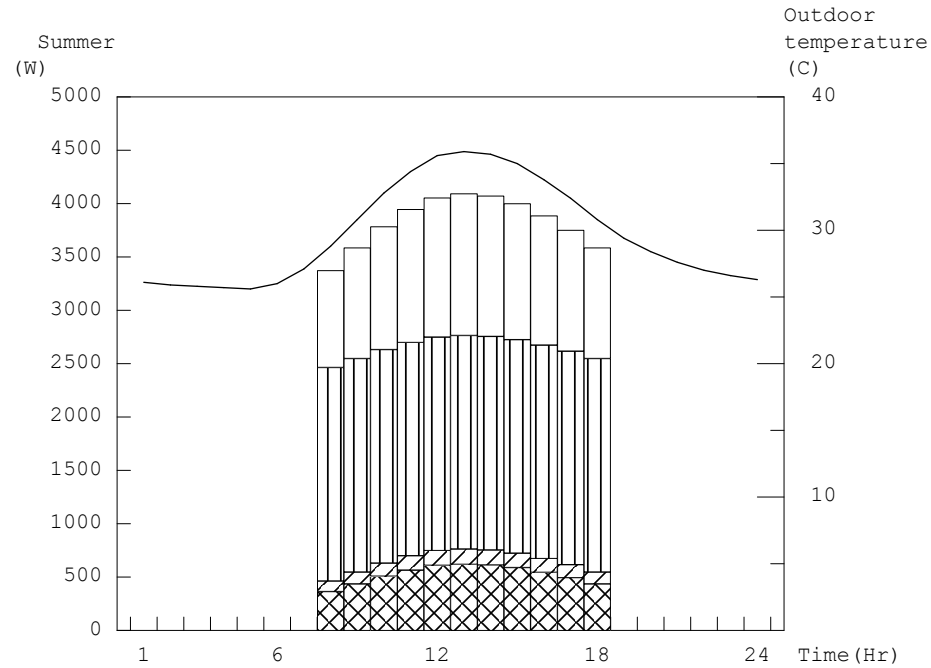
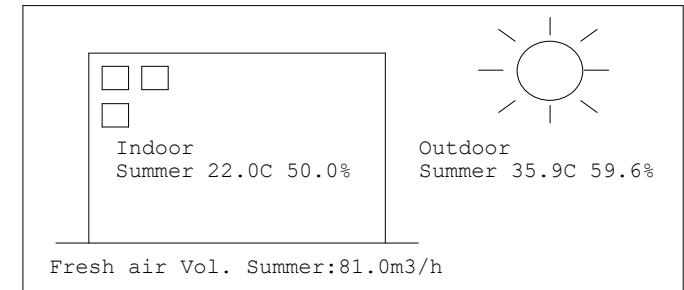
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	247	119	0	20	78	168	228	404	1200	0	2158	306	909	3373 (2901)
9	30.8	71.4	0	0	318	119	0	25	86	168	228	404	1200	0	2234	314	1037	3585 (3083)
10	32.8	66.5	0	0	390	119	0	31	93	168	228	404	1200	0	2312	321	1151	3784 (3254)
11	34.4	63.0	0	0	448	119	0	36	98	168	228	404	1200	0	2375	326	1245	3946 (3394)
12	35.6	60.0	0	0	491	119	0	39	101	168	228	404	1200	0	2421	329	1305	4055 (3487)
*13	35.9	59.6	0	0	502	119	0	40	103	168	228	404	1200	0	2433	331	1329	4093 (3520)
14	35.7	60.0	0	0	496	119	0	39	102	168	228	404	1200	0	2426	330	1316	4072 (3502)
15	35.0	61.5	0	0	470	119	0	37	100	168	228	404	1200	0	2398	328	1275	4001 (3441)
16	33.8	64.3	0	0	427	119	0	34	96	168	228	404	1200	0	2352	324	1210	3886 (3342)
17	32.4	67.7	0	0	377	119	0	30	92	168	228	404	1200	0	2298	320	1133	3751 (3226)
18	30.8	71.4	0	0	318	119	0	25	86	168	228	404	1200	0	2234	314	1037	3585 (3083)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 1	1	1	1	Office	17.4	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	502	119	0	40	103	168	228	404	1200	0	1329	4093	4502
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer	27.0
	Winter	----
infiltration ventilation(Times/h)	Summer	0.20
	Winter	----
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting	Fluorescent lamp(W/m2)	20.0
	Incandescent lamp(W/m2)	0.0
No of persons		3
Depth of underground wall(m)		0.0
!Underground wall is valid only when outer wall is negative value.		
Humidifying method		-----
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall	<1>	2.72 III
Inner Wall	<1>	2.62
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor	Cooling	1.10
	Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 1	1	1	1	Office	16.5	2.5	3	Summer 81.0/Winter ----

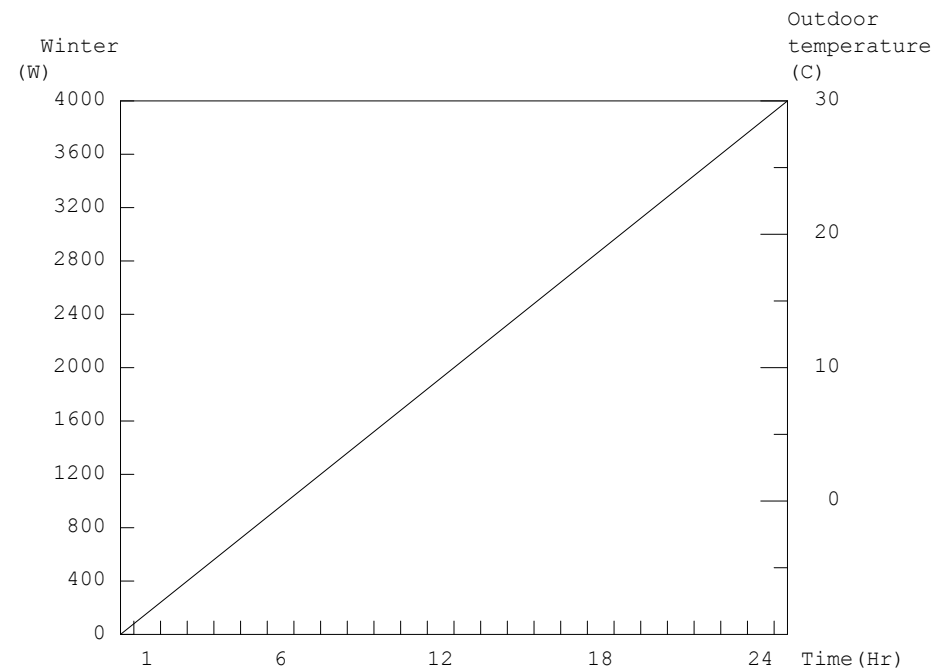
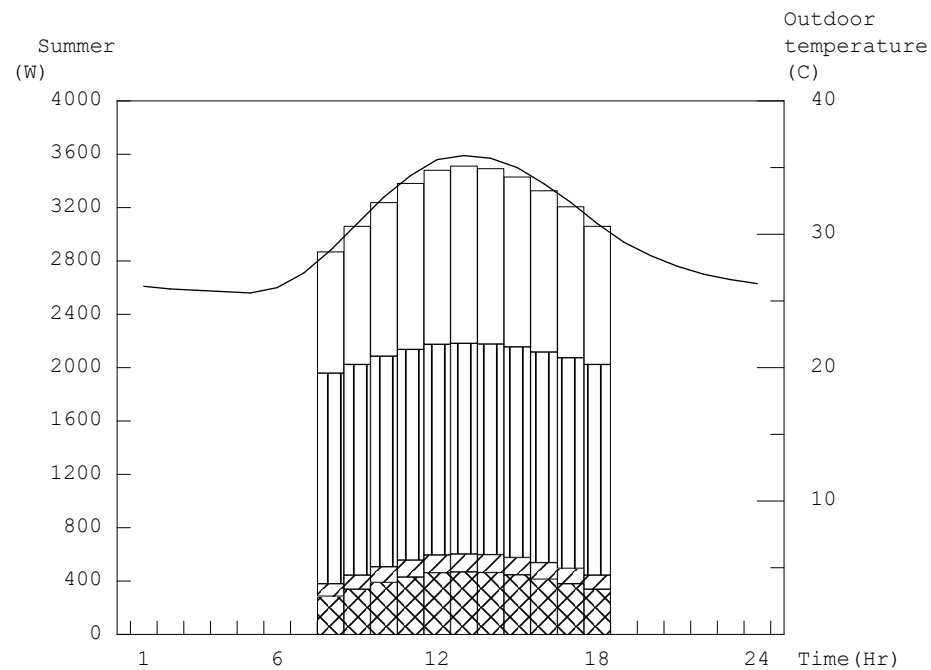
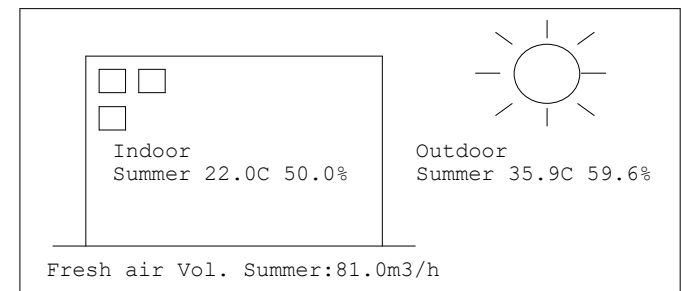
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	174	113	0	19	74	168	228	383	800	0	1657	302	909	2868 (2466)
9	30.8	71.4	0	0	226	113	0	24	82	168	228	383	800	0	1714	310	1037	3061 (2632)
10	32.8	66.5	0	0	278	113	0	29	88	168	228	383	800	0	1771	316	1151	3238 (2785)
11	34.4	63.0	0	0	318	113	0	34	93	168	228	383	800	0	1816	321	1245	3382 (2909)
12	35.6	60.0	0	0	350	113	0	37	96	168	228	383	800	0	1851	324	1305	3480 (2993)
*13	35.9	59.6	0	0	356	113	0	38	97	168	228	383	800	0	1858	325	1329	3512 (3020)
14	35.7	60.0	0	0	352	113	0	37	97	168	228	383	800	0	1853	325	1316	3494 (3005)
15	35.0	61.5	0	0	334	113	0	35	95	168	228	383	800	0	1833	323	1275	3431 (2951)
16	33.8	64.3	0	0	302	113	0	32	91	168	228	383	800	0	1798	319	1210	3327 (2861)
17	32.4	67.7	0	0	268	113	0	28	87	168	228	383	800	0	1760	315	1133	3208 (2759)
18	30.8	71.4	0	0	226	113	0	24	82	168	228	383	800	0	1714	310	1037	3061 (2632)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 1	1	1	1	Office	16.5	2.5	3



[Detail]

[illegible]

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS									Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL									Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil									Design room temperature in winter(CDB)	----
										Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete									Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9									Summer	27.0
Min. fresh air temp. in winter(C)	----									Winter	----
Room name	SALA ANALISTAS 2									infiltration ventilation(Times/h)	Summer 0.20
Floor No	1									Winter	----
System No	1									Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1									Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office									Window type <1>	Clear 5mm
Ceiling board	No									Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan									Shading factor/OHTC	0.63/4.97
Floor area(m2)	19.6									Lighting Fluorescent lamp(W/m2)	20.0
Ceiling height(m)	2.5									Incandescent lamp(W/m2)	0.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass ceiling area(m2) 0.0 0.0 0.0 0.0									No of persons	4
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis 19.6 0.0 0.0 0.0									Depth of underground wall(m)	0.0
Outer wall length(m) <1>	N 0.0 E 5.0 S 0.0 W 0.0 NE 0.0 SE 0.0 SW 0.0 NW 0.0 Shade 0.0									!Underground wall is valid only when outer wall is negative value.	
Window area on outer wall(m2) <1>	0.0 4.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									Humidifying method	-----
Non-conditioned inner wall length(m) <1>	3.9 0.0 0.0 1.5 0.0 0.0 0.0 0.0									Overall heat transfer coefficient (W/m2K)	Outer wall <1> 2.72
!Outer wall length with negative value is regarded as underground wall.										Inner Wall <1>	2.62
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800 0									Roof(without ceiling board)	2.16
Operating time zone	8:00 to 18:00									Ceiling(without ceiling board)	2.69
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18									Mezz floor(with air layer)	1.49
	Lighting 100 100 100 100 100 100 100 100 100 100 100									Mezz floor(without air layer)	2.69
	Persons 100 100 100 100 100 100 100 100 100 100 100									Pilotis	3.29
	Equipments 100 100 100 100 100 100 100 100 100 100 100									Earth floor	0.90
										Underground wall(depth<=2.4m)	1.56 (W/mK)
										Underground wall(depth>2.4m)	0.45
										Safety factor	Cooling 1.10
										Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 2	1	1	1	Office	19.6	2.5	4	Summer 108.0/Winter ----

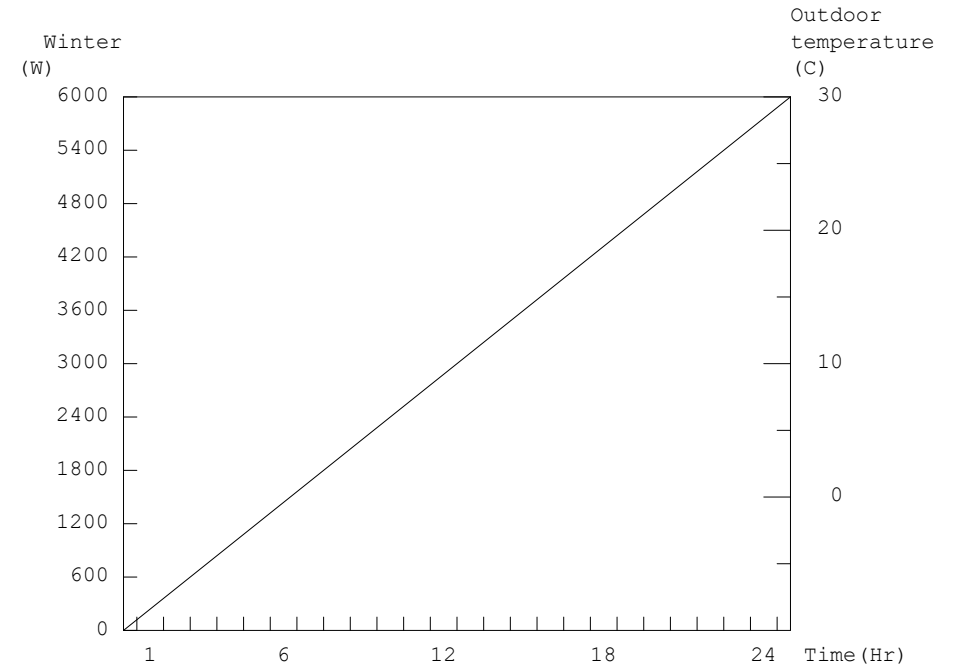
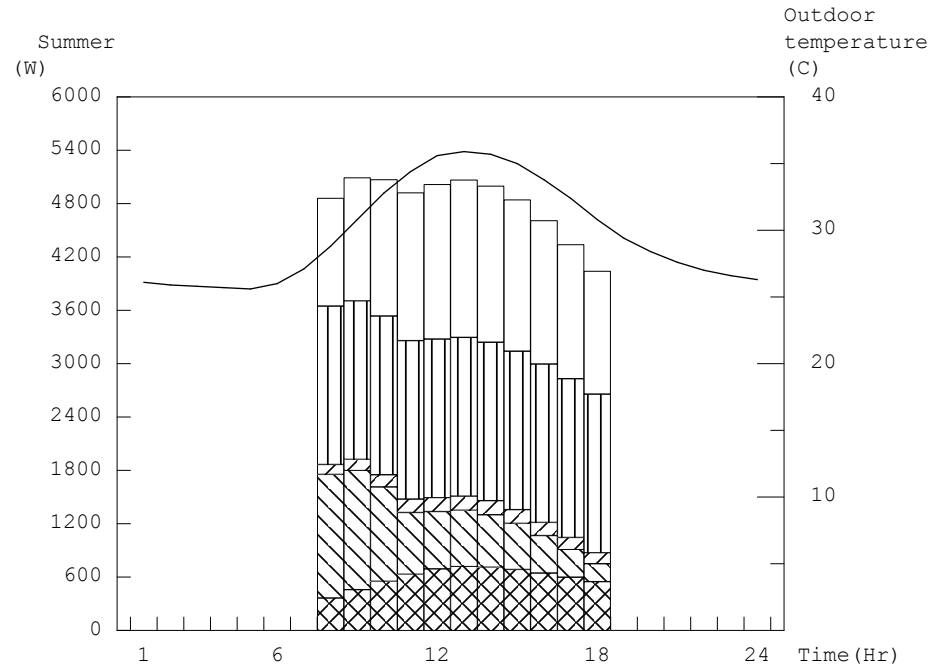
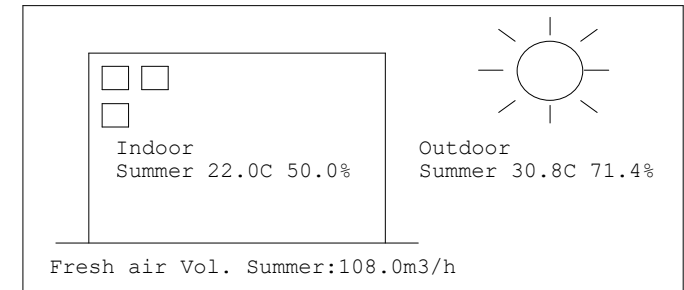
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	135	0	96	134	1391	22	88	224	304	455	800	0	3257	392	1211	4860 (4180)
* 9	30.8	71.4	200	0	125	134	1341	28	97	224	304	455	800	0	3307	401	1383	5091 (4378)
10	32.8	66.5	266	0	152	134	1062	35	104	224	304	455	800	0	3128	408	1534	5070 (4360)
11	34.4	63.0	324	0	176	134	693	40	111	224	304	455	800	0	2846	415	1661	4922 (4233)
12	35.6	60.0	367	0	192	134	644	44	114	224	304	455	800	0	2860	418	1740	5018 (4315)
13	35.9	59.6	389	0	197	134	632	45	116	224	304	455	800	0	2876	420	1771	5067 (4358)
14	35.7	60.0	385	0	194	134	588	44	115	224	304	455	800	0	2824	419	1755	4998 (4298)
15	35.0	61.5	370	0	184	134	517	42	112	224	304	455	800	0	2726	416	1701	4843 (4165)
16	33.8	64.3	346	0	167	134	421	38	108	224	304	455	800	0	2585	412	1614	4611 (3965)
17	32.4	67.7	320	0	147	134	310	34	103	224	304	455	800	0	2424	407	1511	4342 (3734)
18	30.8	71.4	290	0	125	134	201	28	97	224	304	455	800	0	2257	401	1383	4041 (3475)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 2	1	1	1	Office	19.6	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	9	200	0	125	134	1341	28	97	224	304	455	800	0	1383	5091	5600
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil										Design room temperature in winter(CDB)	----
											Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9										Summer	27.0
Min. fresh air temp. in winter(C)	----										Winter	----
Room name	SALA DELEGADO 2										infiltration ventilation(Times/h)	Summer 0.20
Floor No	1										Winter	----
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1										Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office										Window type <1>	Clear 5mm
Ceiling board	No										Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97
Floor area(m2)	25.9										Lighting Fluorescent lamp(W/m2)	20.0
Ceiling height(m)	2.5										Incandescent lamp(W/m2)	0.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass										No of persons	3
	0.0 0.0 0.0 0.0										Depth of underground wall(m)	0.0
											!Underground wall is valid only when outer wall is negative value.	
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis										Humidifying method	-----
	25.9 0.0 0.0 0.0										Overall heat transfer coefficient (W/m2K)	
Outer wall length(m) <1>	N	E	S	W	NE	SE	SW	NW	Shade		Outer wall <1>	2.72
Window area on outer wall(m2)	0.0	4.9	5.3	0.0	0.0	0.0	0.0	0.0	0.0		Inner Wall <1>	2.62
Non-conditioned inner wall length(m)	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0		Roof(without ceiling board)	2.16
!Outer wall length with negative value is regarded as underground wall.											Ceiling(without ceiling board)	2.69
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat										Mezz floor(with air layer)	1.49
	800 0										Mezz floor(without air layer)	2.69
Operating time zone	8:00 to 18:00										Pilotis	3.29
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18
	Lighting	100	100	100	100	100	100	100	100	100	100	100
	Persons	100	100	100	100	100	100	100	100	100	100	100
	Equipments	100	100	100	100	100	100	100	100	100	100	100
											Earth floor	0.90
											Underground wall(depth<=2.4m)	1.56 (W/mK)
											Underground wall(depth>2.4m)	0.45
											Safety factor Cooling	1.10
											Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 2	1	1	1	Office	25.9	2.5	3	Summer 81.0/Winter ----

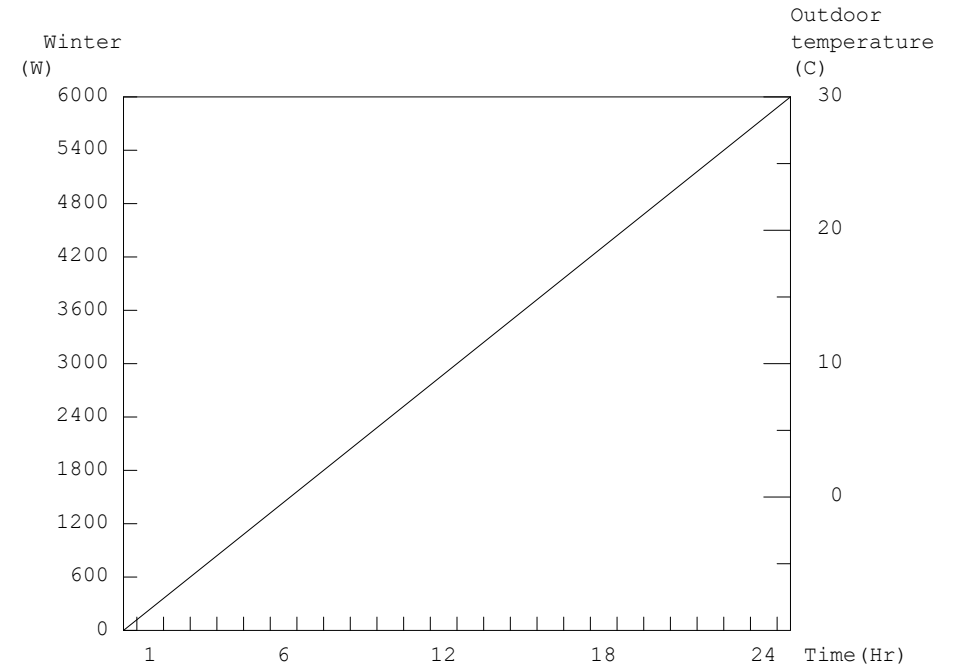
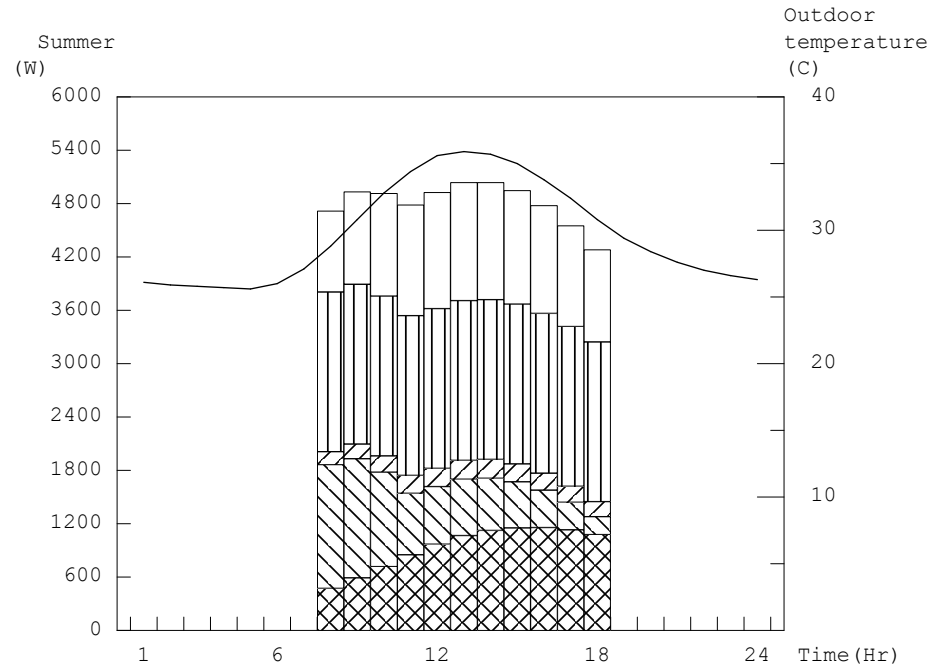
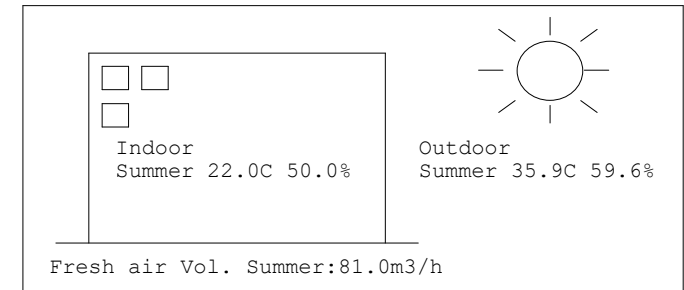
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	297	0	0	177	1391	29	116	168	228	601	800	0	3463	344	909	4716 (4056)
9	30.8	71.4	414	0	0	177	1341	38	128	168	228	601	800	0	3539	356	1037	4932 (4242)
10	32.8	66.5	543	0	0	177	1062	46	138	168	228	601	800	0	3397	366	1151	4914 (4226)
11	34.4	63.0	674	0	0	177	693	53	146	168	228	601	800	0	3166	374	1245	4785 (4115)
12	35.6	60.0	796	0	0	177	644	58	150	168	228	601	800	0	3244	378	1305	4927 (4237)
*13	35.9	59.6	892	0	0	177	632	59	153	168	228	601	800	0	3329	381	1329	5039 (4334)
14	35.7	60.0	949	0	0	177	588	59	152	168	228	601	800	0	3342	380	1316	5038 (4333)
15	35.0	61.5	978	0	0	177	517	56	148	168	228	601	800	0	3297	376	1275	4948 (4255)
16	33.8	64.3	980	0	0	177	421	50	143	168	228	601	800	0	3197	371	1210	4778 (4109)
17	32.4	67.7	955	0	0	177	310	44	137	168	228	601	800	0	3055	365	1133	4553 (3916)
18	30.8	71.4	904	0	0	177	201	38	128	168	228	601	800	0	2889	356	1037	4282 (3683)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 2	1	1	1	Office	25.9	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	892	0	0	177	632	59	153	168	228	601	800	0	1329	5039	5543
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	3	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 2	1	1	1	Office	14.4	2.5	3	Summer 81.0/Winter ----

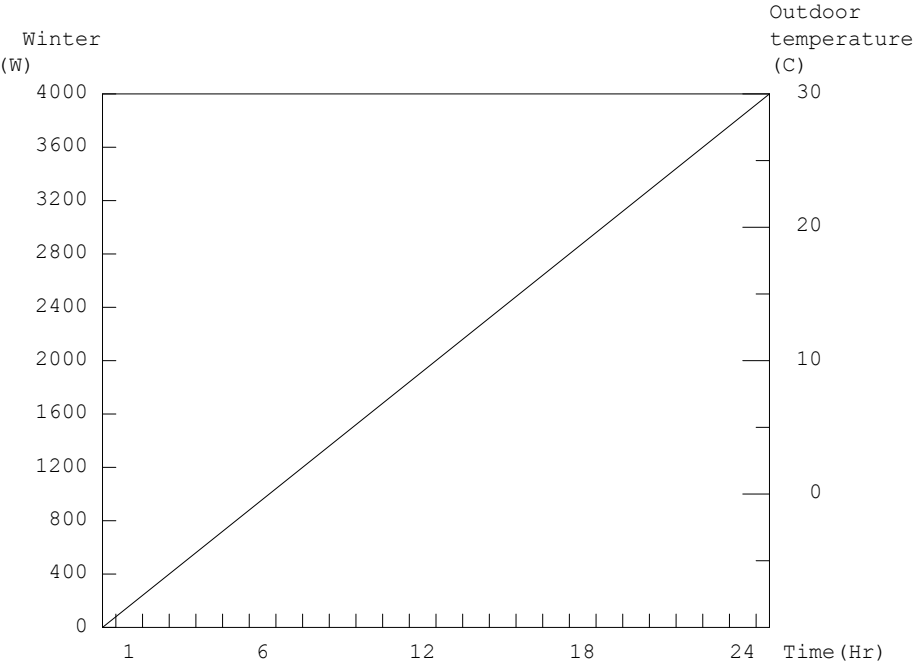
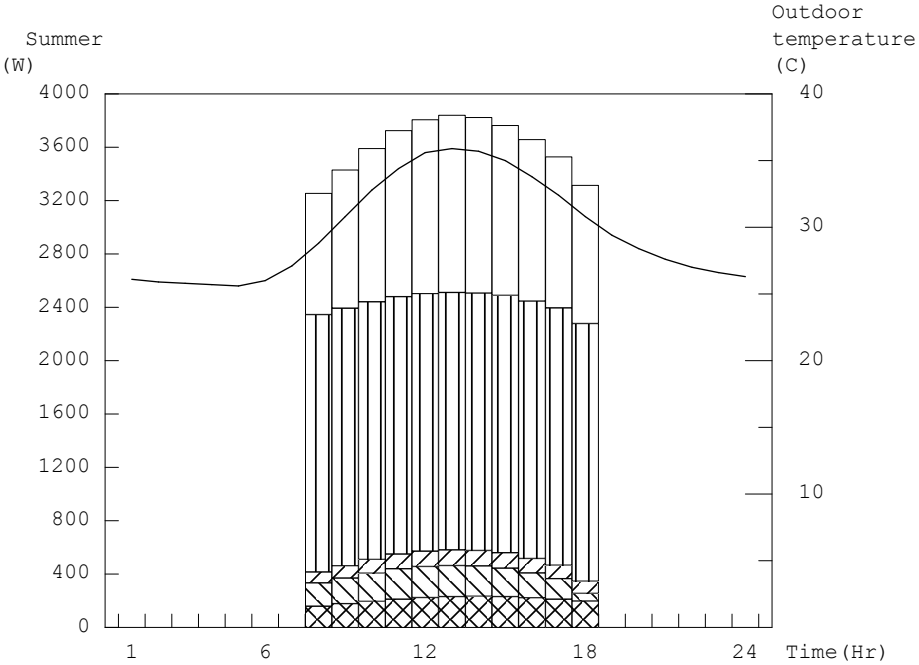
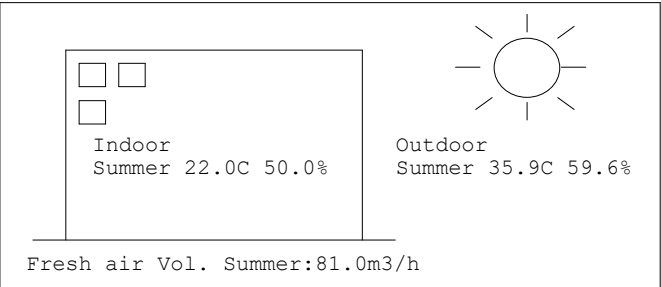
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	9	0	52	99	175	16	65	168	228	334	1200	0	2053	293	909	3255 (2799)
9	30.8	71.4	12	0	67	99	193	21	71	168	228	334	1200	0	2094	299	1037	3430 (2950)
10	32.8	66.5	15	0	82	99	212	26	77	168	228	334	1200	0	2136	305	1151	3592 (3089)
11	34.4	63.0	19	0	94	99	228	29	81	168	228	334	1200	0	2171	309	1245	3725 (3204)
12	35.6	60.0	23	0	103	99	232	32	84	168	228	334	1200	0	2191	312	1305	3808 (3275)
*13	35.9	59.6	27	0	106	99	232	33	85	168	228	334	1200	0	2199	313	1329	3841 (3303)
14	35.7	60.0	30	0	104	99	228	33	84	168	228	334	1200	0	2196	312	1316	3824 (3289)
15	35.0	61.5	33	0	99	99	215	31	83	168	228	334	1200	0	2179	311	1275	3765 (3238)
16	33.8	64.3	34	0	90	99	187	28	80	168	228	334	1200	0	2140	308	1210	3658 (3146)
17	32.4	67.7	34	0	79	99	154	25	76	168	228	334	1200	0	2093	304	1133	3530 (3036)
18	30.8	71.4	33	0	67	99	57	21	71	168	228	334	1200	0	1979	299	1037	3315 (2851)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 2	1	1	1	Office	14.4	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	27	0	106	99	232	33	85	168	228	334	1200	0	1329	3841	4225
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons	5		
Depth of underground wall(m)	0.0		
!Underground wall is valid only when outer wall is negative value.			
Humidifying method	-----		
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)	2.16		IV
Ceiling(without ceiling board)	2.69		
Mezz floor(with air layer)	1.49		
Mezz floor(without air layer)	2.69		
Pilotis	3.29		
Earth floor	0.90		
Underground wall(depth<=2.4m)	1.56	(W/mK)	
Underground wall(depth>2.4m)	0.45		
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 3	1	1	1	Office	31.4	2.5	5	Summer 135.0/Winter ----

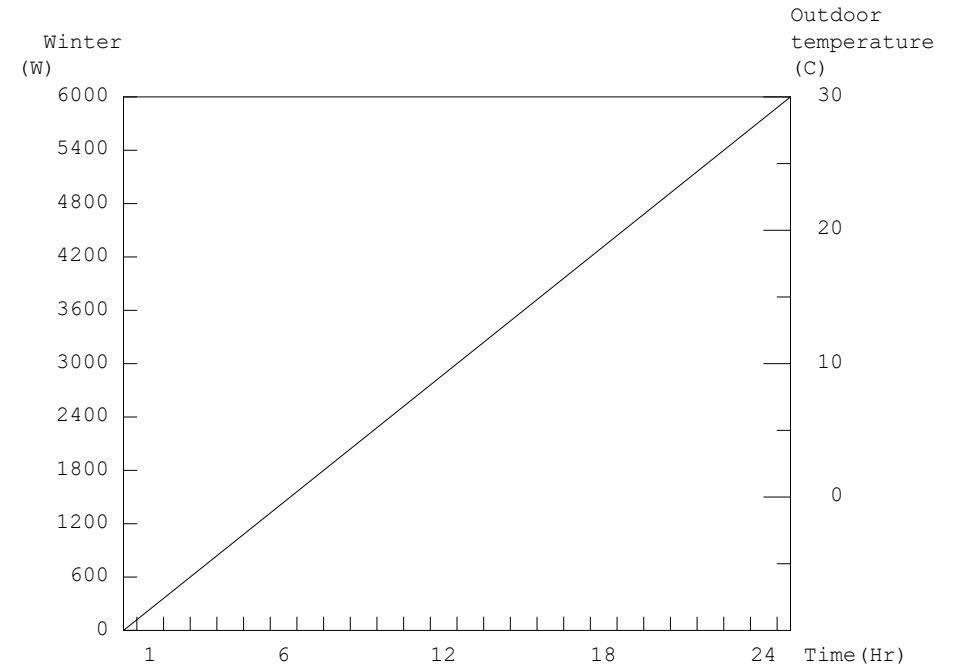
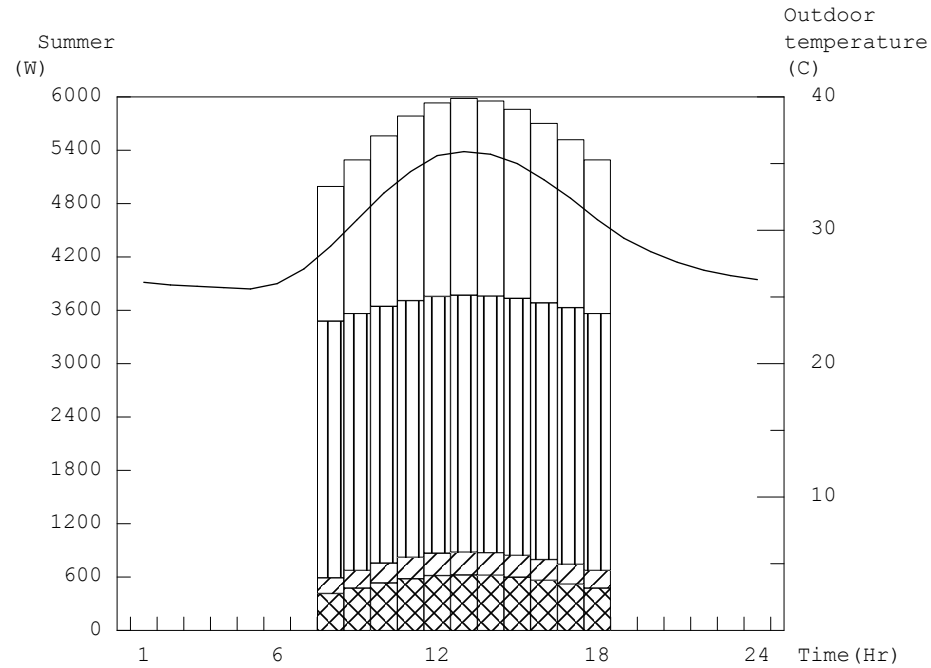
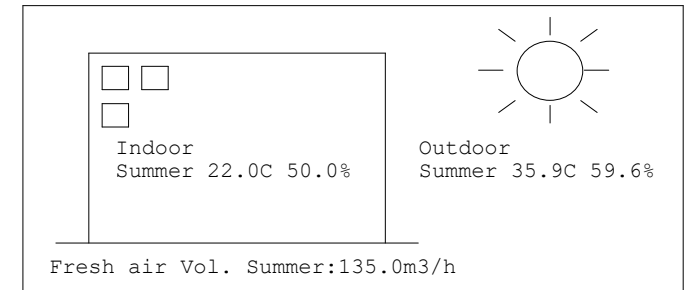
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	201	215	0	35	141	280	380	728	1500	0	2959	521	1514	4994 (4295)
9	30.8	71.4	0	0	261	215	0	46	155	280	380	728	1500	0	3030	535	1728	5293 (4552)
10	32.8	66.5	0	0	320	215	0	56	167	280	380	728	1500	0	3099	547	1917	5563 (4784)
11	34.4	63.0	0	0	367	215	0	64	177	280	380	728	1500	0	3154	557	2076	5787 (4977)
12	35.6	60.0	0	0	403	215	0	70	182	280	380	728	1500	0	3196	562	2175	5933 (5102)
*13	35.9	59.6	0	0	411	215	0	72	185	280	380	728	1500	0	3206	565	2214	5985 (5147)
14	35.7	60.0	0	0	405	215	0	71	184	280	380	728	1500	0	3199	564	2193	5956 (5122)
15	35.0	61.5	0	0	385	215	0	67	180	280	380	728	1500	0	3175	560	2126	5861 (5040)
16	33.8	64.3	0	0	349	215	0	61	173	280	380	728	1500	0	3133	553	2017	5703 (4905)
17	32.4	67.7	0	0	308	215	0	54	166	280	380	728	1500	0	3085	546	1888	5519 (4746)
18	30.8	71.4	0	0	261	215	0	46	155	280	380	728	1500	0	3030	535	1728	5293 (4552)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 3	1	1	1	Office	31.4	2.5	5



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	411	215	0	72	185	280	380	728	1500	0	2214	5985	6584
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0			
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0			
City	Maceio/Brazil										Design room temperature in winter(CDB)	----			
											Design room humidity in winter(%RH)	----			
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)			
Max. fresh air temp. in summer(C)	35.9										Summer	27.0			
Min. fresh air temp. in winter(C)	----										Winter	----			
Room name	CARTÓR. SECRET. 3										infiltration ventilation(Times/h)	Summer 0.20			
Floor No	1										Winter	----			
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)				
No of rooms	1										Lighting:--- Persons:--- Equipments:---				
Usage of Room	Office										Window type <1>	Clear 5mm			
Ceiling board	No										Blind type	Neutral tints			
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97			
Floor area(m2)	13.9										Lighting	Fluorescent lamp(W/m2) 20.0			
Ceiling height(m)	2.5										Incandescent lamp(W/m2)	0.0			
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof 0.0, Inclined roof 0.0, Window glass 0.0										No of persons	3			
Non-air-conditioned floor area(m2)	Earth floor 13.9, with air layer, Without air layer, Pilotis 0.0										Depth of underground wall(m)	0.0			
Outer wall length(m) <1>	N 0.0, E 0.0, S 0.0, W 0.0, NE 0.0, SE 0.0, SW 0.0, NW 0.0, Shade 0.0										!Underground wall is valid only when outer wall is negative value.				
Window area on outer wall(m2) <1>	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0										Humidifying method	-----			
Non-conditioned inner wall length(m) <1>	0.0, 0.0, 0.0, 2.9, 0.0, 0.0, 0.0, 0.0										Overall heat transfer coefficient	(W/m2K) 2.72			
!Outer wall length with negative value is regarded as underground wall.												Outer wall	<1>	2.72	Wall type III
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 1200, 0										Inner Wall	<1>	2.62	IV	
Operating time zone	8:00 to 18:00										Roof(without ceiling board)	2.16			
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18	Ceiling(without ceiling board)		2.69
	Lighting	100	100	100	100	100	100	100	100	100	100	100	Mezz floor(with air layer)		1.49
	Persons	100	100	100	100	100	100	100	100	100	100	100	Mezz floor(without air layer)		2.69
	Equipments	100	100	100	100	100	100	100	100	100	100	100	Pilotis	3.29	
													Earth floor	0.90	
													Underground wall(depth<=2.4m)	1.56 (W/mK)	
													Underground wall(depth>2.4m)	0.45	
													Safety factor	Cooling 1.10	
													Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 3	1	1	1	Office	13.9	2.5	3	Summer 81.0/Winter ----

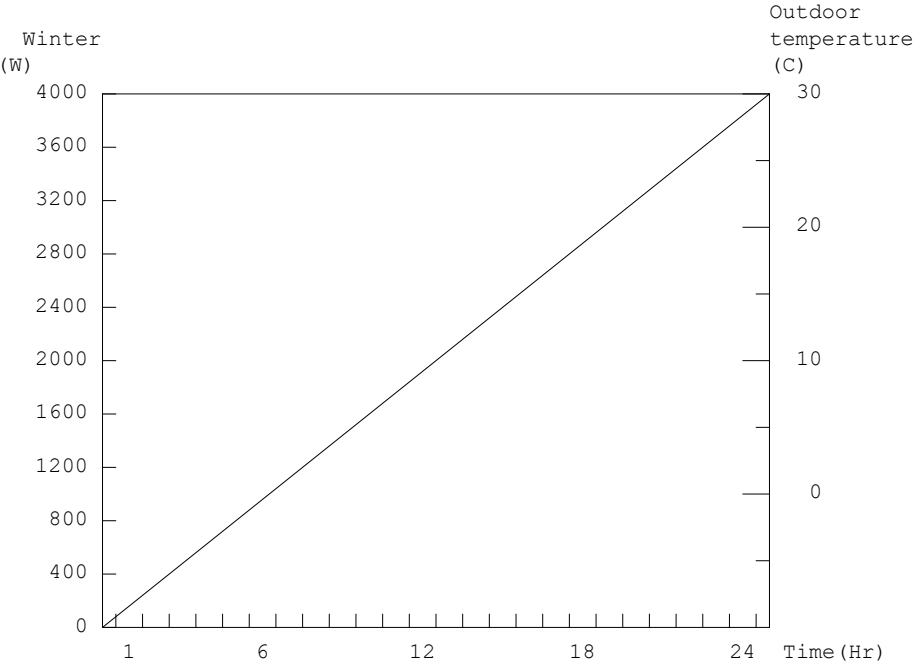
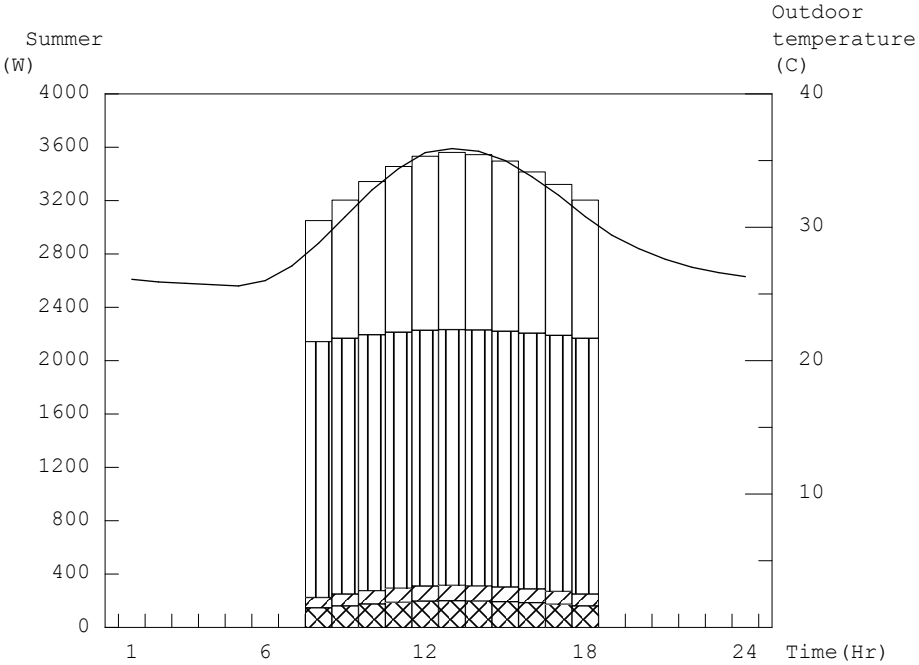
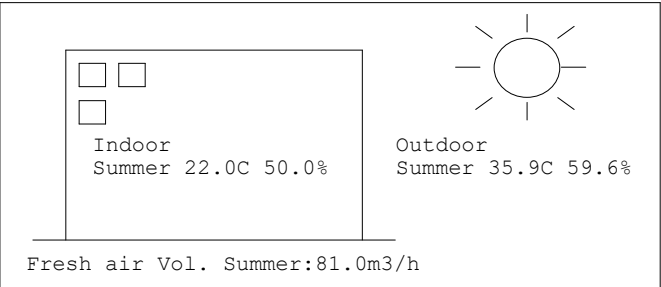
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	52	95	0	16	62	168	228	322	1200	0	1853	290	909	3052 (2625)
9	30.8	71.4	0	0	67	95	0	20	69	168	228	322	1200	0	1872	297	1037	3206 (2757)
10	32.8	66.5	0	0	82	95	0	25	74	168	228	322	1200	0	1892	302	1151	3345 (2877)
11	34.4	63.0	0	0	94	95	0	28	78	168	228	322	1200	0	1907	306	1245	3458 (2974)
12	35.6	60.0	0	0	103	95	0	31	81	168	228	322	1200	0	1919	309	1305	3533 (3038)
*13	35.9	59.6	0	0	106	95	0	32	82	168	228	322	1200	0	1923	310	1329	3562 (3063)
14	35.7	60.0	0	0	104	95	0	31	82	168	228	322	1200	0	1920	310	1316	3546 (3050)
15	35.0	61.5	0	0	99	95	0	30	80	168	228	322	1200	0	1914	308	1275	3497 (3007)
16	33.8	64.3	0	0	90	95	0	27	77	168	228	322	1200	0	1902	305	1210	3417 (2939)
17	32.4	67.7	0	0	79	95	0	24	73	168	228	322	1200	0	1888	301	1133	3322 (2857)
18	30.8	71.4	0	0	67	95	0	20	69	168	228	322	1200	0	1872	297	1037	3206 (2757)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 3	1	1	1	Office	13.9	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	106	95	0	32	82	168	228	322	1200	0	1329	3562	3918
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	3	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 3	1	1	1	Office	12.5	2.5	3	Summer 81.0/Winter ----

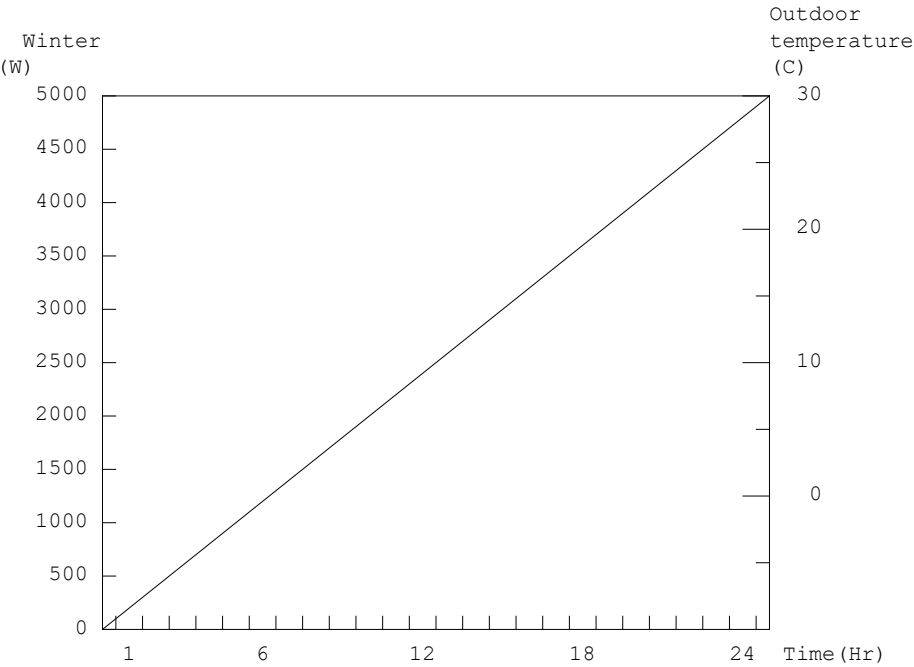
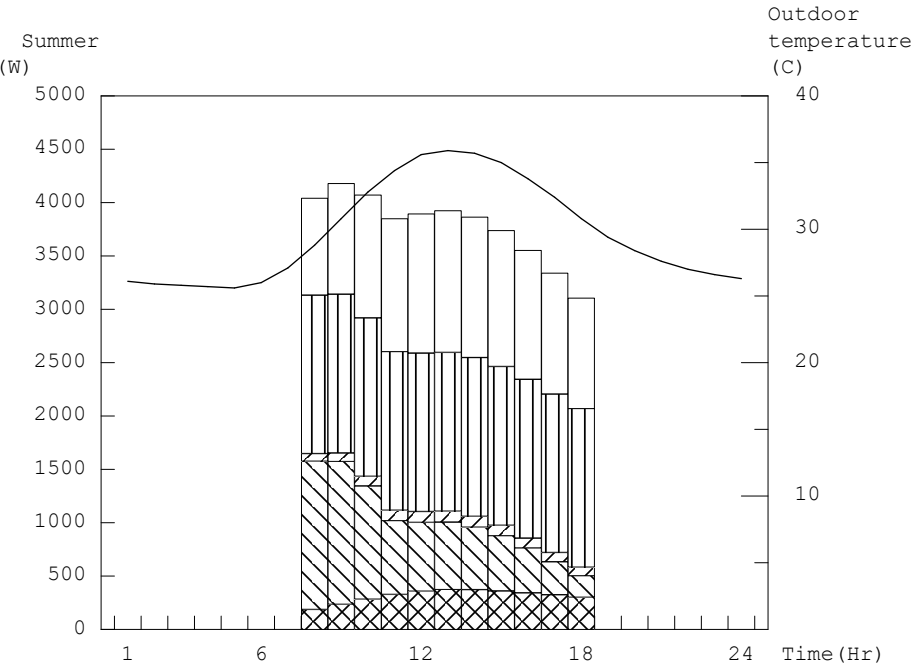
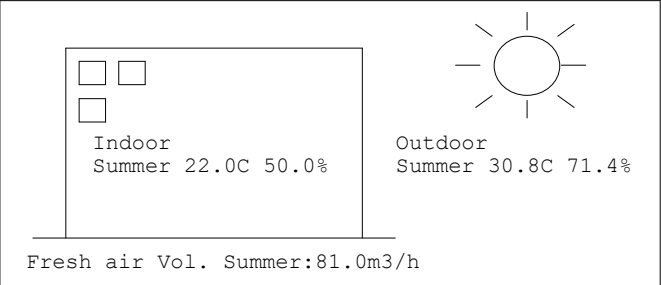
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	101	0	0	86	1391	14	56	168	228	290	800	0	2850	284	909	4043 (3477)
* 9	30.8	71.4	149	0	0	86	1341	18	62	168	228	290	800	0	2852	290	1037	4179 (3594)
10	32.8	66.5	199	0	0	86	1062	22	66	168	228	290	800	0	2627	294	1151	4072 (3502)
11	34.4	63.0	242	0	0	86	693	26	71	168	228	290	800	0	2305	299	1245	3849 (3310)
12	35.6	60.0	274	0	0	86	644	28	73	168	228	290	800	0	2290	301	1305	3896 (3351)
13	35.9	59.6	290	0	0	86	632	29	74	168	228	290	800	0	2295	302	1329	3926 (3376)
14	35.7	60.0	287	0	0	86	588	28	73	168	228	290	800	0	2247	301	1316	3864 (3323)
15	35.0	61.5	276	0	0	86	517	27	72	168	228	290	800	0	2164	300	1275	3739 (3216)
16	33.8	64.3	258	0	0	86	421	24	69	168	228	290	800	0	2047	297	1210	3554 (3056)
17	32.4	67.7	239	0	0	86	310	21	66	168	228	290	800	0	1914	294	1133	3341 (2873)
18	30.8	71.4	217	0	0	86	201	18	62	168	228	290	800	0	1780	290	1037	3107 (2672)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 3	1	1	1	Office	12.5	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	9	149	0	0	86	1341	18	62	168	228	290	800	0	1037	4179	4597
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS									Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL									Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil									Design room temperature in winter(CDB)	----
										Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete									Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9									Summer	27.0
Min. fresh air temp. in winter(C)	----									Winter	----
Room name	CARTÓR. SECRET. 4									infiltration ventilation(Times/h)	Summer 0.20
Floor No	1									Winter	----
System No	1									Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1									Lighting:---	Persons:---
Usage of Room	Office									Equipments:---	
Ceiling board	No									Window type <1>	Clear 5mm
Method of fresh air intake	Common ventilation fan									Blind type	Neutral tints
Floor area(m2)	14.1									Shading factor/OHTC	0.63/4.97
Ceiling height(m)	2.5									Lighting Fluorescent lamp(W/m2)	20.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass									Incandescent lamp(W/m2)	0.0
	0.0 0.0 0.0 0.0									No of persons	3
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis									Depth of underground wall(m)	0.0
	14.1 0.0 0.0									!Underground wall is valid only when outer wall is negative value.	
Outer wall length(m) <1>	N E S W NE SE SW NW Shade									Humidifying method	-----
Window area on outer wall(m2)	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									Overall heat transfer coefficient (W/m2K)	
Non-conditioned inner wall length(m)	0.0 0.0 0.0 2.9 0.0 0.0 0.0 0.0									Outer wall <1>	2.72
!Outer wall length with negative value is regarded as underground wall.										Inner Wall <1>	2.62
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat									Roof(without ceiling board)	2.16
	1200 0									Ceiling(without ceiling board)	2.69
Operating time zone	8:00 to 18:00									Mezz floor(with air layer)	1.49
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18									Mezz floor(without air layer)	2.69
	Lighting 100 100 100 100 100 100 100 100 100 100 100									Pilotis	3.29
	Persons 100 100 100 100 100 100 100 100 100 100 100									Earth floor	0.90
	Equipments 100 100 100 100 100 100 100 100 100 100 100									Underground wall(depth<=2.4m)	1.56 (W/mK)
										Underground wall(depth>2.4m)	0.45
										Safety factor Cooling	1.10
										Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 4	1	1	1	Office	14.1	2.5	3	Summer 81.0/Winter ----

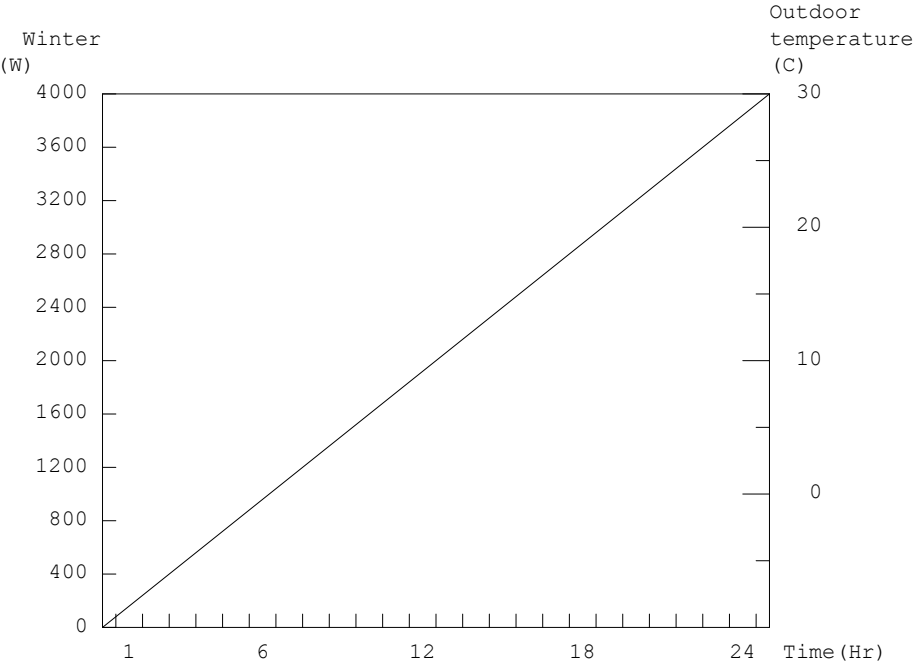
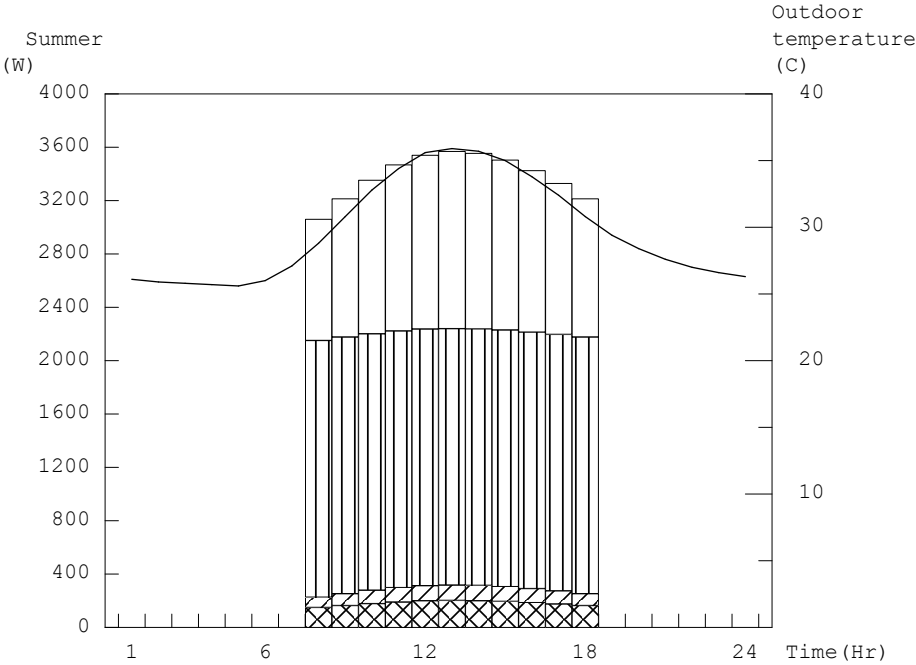
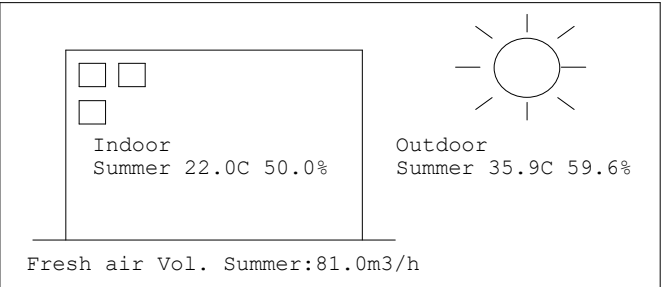
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	52	97	0	16	63	168	228	327	1200	0	1860	291	909	3060 (2632)
9	30.8	71.4	0	0	67	97	0	20	70	168	228	327	1200	0	1879	298	1037	3214 (2764)
10	32.8	66.5	0	0	82	97	0	25	75	168	228	327	1200	0	1899	303	1151	3353 (2884)
11	34.4	63.0	0	0	94	97	0	29	80	168	228	327	1200	0	1915	308	1245	3468 (2982)
12	35.6	60.0	0	0	103	97	0	32	82	168	228	327	1200	0	1927	310	1305	3542 (3046)
*13	35.9	59.6	0	0	106	97	0	32	83	168	228	327	1200	0	1930	311	1329	3570 (3070)
14	35.7	60.0	0	0	104	97	0	32	83	168	228	327	1200	0	1928	311	1316	3555 (3057)
15	35.0	61.5	0	0	99	97	0	30	81	168	228	327	1200	0	1921	309	1275	3505 (3014)
16	33.8	64.3	0	0	90	97	0	27	78	168	228	327	1200	0	1909	306	1210	3425 (2946)
17	32.4	67.7	0	0	79	97	0	24	74	168	228	327	1200	0	1895	302	1133	3330 (2864)
18	30.8	71.4	0	0	67	97	0	20	70	168	228	327	1200	0	1879	298	1037	3214 (2764)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 4	1	1	1	Office	14.1	2.5	3



[Detail]																
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	106	97	0	32	83	168	228	327	1200	0	1329	3570	3927
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer	27.0
	Winter	----
infiltration ventilation(Times/h)	Summer	0.20
	Winter	----
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting	Fluorescent lamp(W/m2)	20.0
	Incandescent lamp(W/m2)	0.0
No of persons		3
Depth of underground wall(m)		0.0
!Underground wall is valid only when outer wall is negative value.		
Humidifying method		-----
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall	<1>	2.72 III
Inner Wall	<1>	2.62
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor	Cooling	1.10
	Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 4	1	1	1	Office	14.3	2.5	3	Summer 81.0/Winter ----

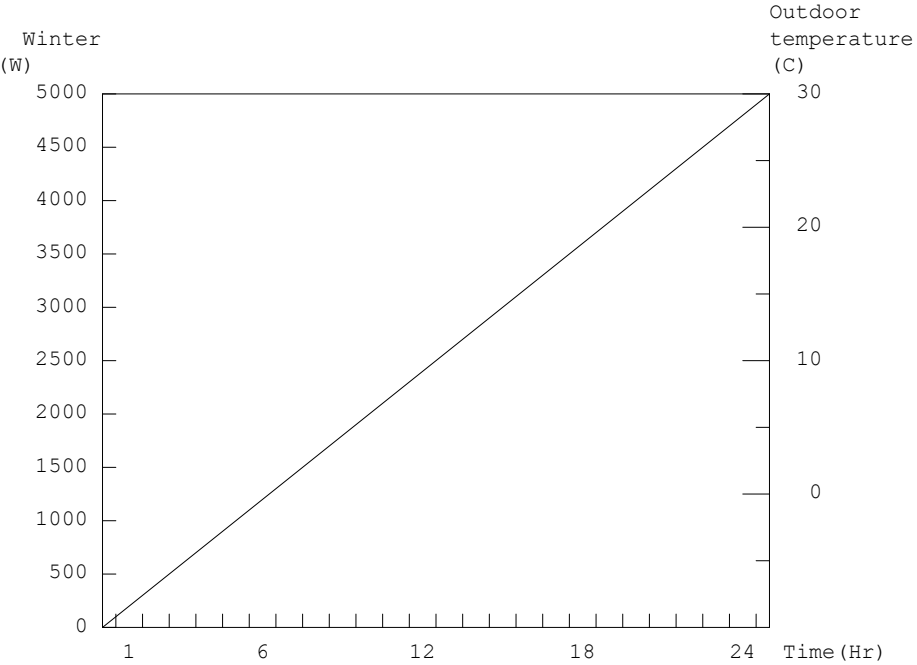
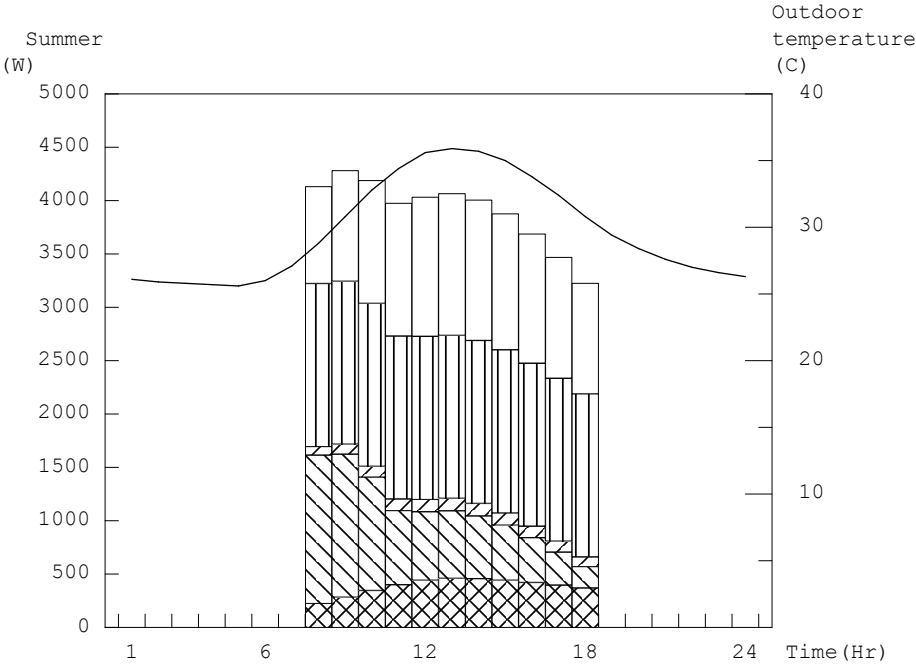
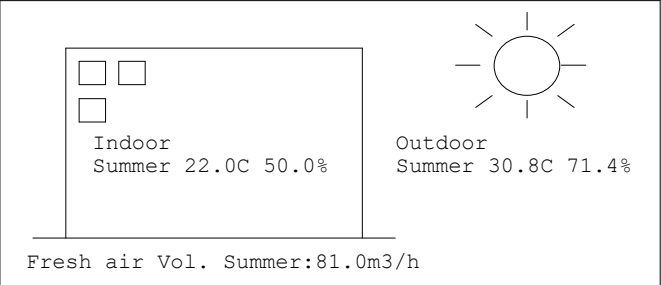
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	127	0	0	98	1391	16	64	168	228	332	800	0	2932	292	909	4133 (3554)
* 9	30.8	71.4	187	0	0	98	1341	21	71	168	228	332	800	0	2947	299	1037	4283 (3683)
10	32.8	66.5	250	0	0	98	1062	25	76	168	228	332	800	0	2735	304	1151	4190 (3603)
11	34.4	63.0	304	0	0	98	693	29	81	168	228	332	800	0	2424	309	1245	3978 (3421)
12	35.6	60.0	344	0	0	98	644	32	83	168	228	332	800	0	2418	311	1305	4034 (3469)
13	35.9	59.6	364	0	0	98	632	33	84	168	228	332	800	0	2427	312	1329	4068 (3498)
14	35.7	60.0	360	0	0	98	588	32	84	168	228	332	800	0	2378	312	1316	4006 (3445)
15	35.0	61.5	346	0	0	98	517	31	82	168	228	332	800	0	2292	310	1275	3877 (3334)
16	33.8	64.3	324	0	0	98	421	28	79	168	228	332	800	0	2171	307	1210	3688 (3172)
17	32.4	67.7	300	0	0	98	310	25	75	168	228	332	800	0	2033	303	1133	3469 (2983)
18	30.8	71.4	272	0	0	98	201	21	71	168	228	332	800	0	1892	299	1037	3228 (2776)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 4	1	1	1	Office	14.3	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	9	187	0	0	98	1341	21	71	168	228	332	800	0	1037	4283	4711
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	4	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume (m3/h)
SALA ANALISTAS 5	1	1	1	Office	25.8	2.5	4	Summer 108.0/Winter ----

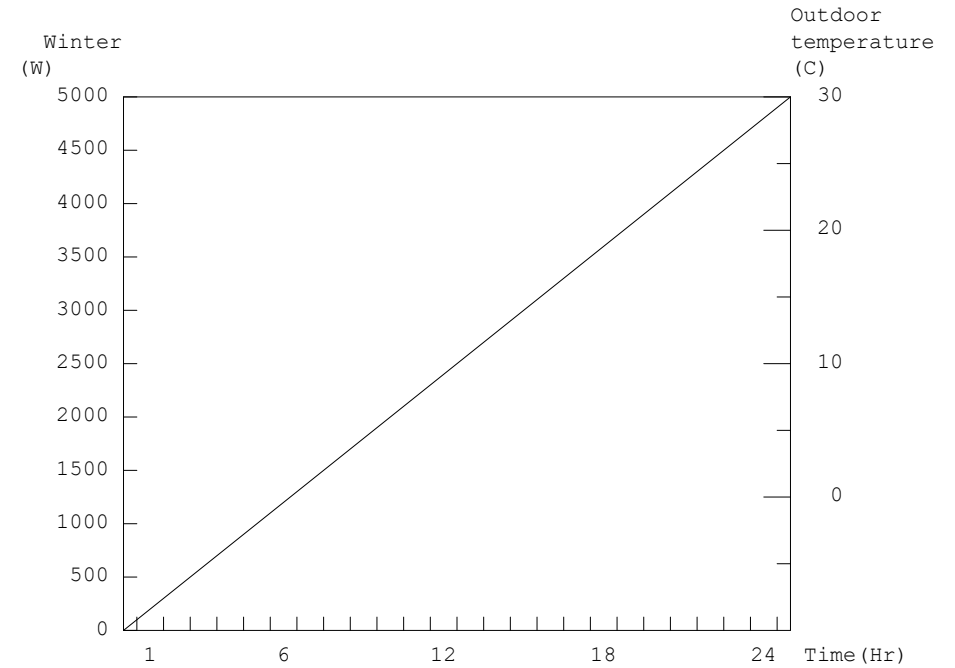
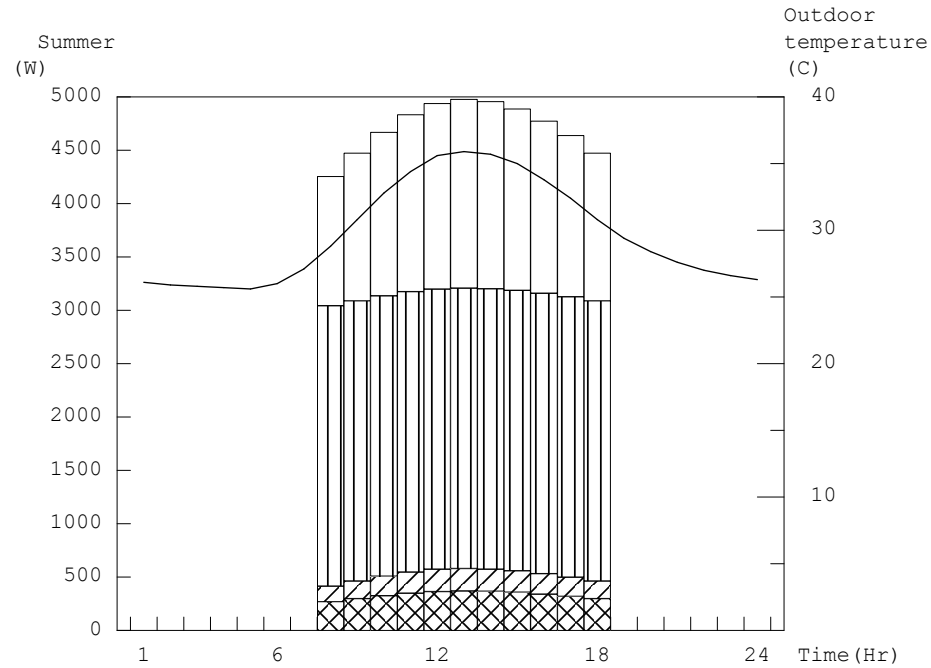
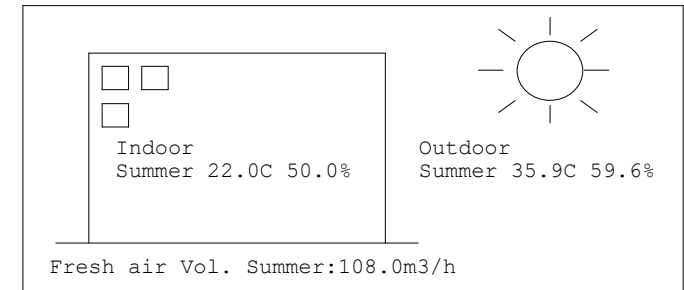
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	94	177	0	29	116	224	304	599	1500	0	2623	420	1211	4254 (3658)
9	30.8	71.4	0	0	122	177	0	37	128	224	304	599	1500	0	2659	432	1383	4474 (3848)
10	32.8	66.5	0	0	150	177	0	46	137	224	304	599	1500	0	2696	441	1534	4671 (4017)
11	34.4	63.0	0	0	172	177	0	53	146	224	304	599	1500	0	2725	450	1661	4836 (4159)
12	35.6	60.0	0	0	189	177	0	58	150	224	304	599	1500	0	2747	454	1740	4941 (4249)
*13	35.9	59.6	0	0	193	177	0	59	152	224	304	599	1500	0	2752	456	1771	4979 (4282)
14	35.7	60.0	0	0	190	177	0	58	151	224	304	599	1500	0	2748	455	1755	4958 (4264)
15	35.0	61.5	0	0	181	177	0	55	148	224	304	599	1500	0	2736	452	1701	4889 (4205)
16	33.8	64.3	0	0	164	177	0	50	142	224	304	599	1500	0	2714	446	1614	4774 (4106)
17	32.4	67.7	0	0	144	177	0	44	136	224	304	599	1500	0	2688	440	1511	4639 (3990)
18	30.8	71.4	0	0	122	177	0	37	128	224	304	599	1500	0	2659	432	1383	4474 (3848)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 5	1	1	1	Office	25.8	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	193	177	0	59	152	224	304	599	1500	0	1771	4979	5477
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS									Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL									Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil									Design room temperature in winter(CDB)	----
										Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete									Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9									Summer	27.0
Min. fresh air temp. in winter(C)	----									Winter	----
Room name	CARTÓR. SECRET. 5									infiltration ventilation(Times/h)	Summer 0.20
Floor No	1									Winter	----
System No	1									Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1									Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office									Window type <1>	Clear 5mm
Ceiling board	No									Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan									Shading factor/OHTC	0.63/4.97
Floor area(m2)	13.8									Lighting Fluorescent lamp(W/m2)	20.0
Ceiling height(m)	2.5									Incandescent lamp(W/m2)	0.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass ceiling area(m2) 0.0 0.0 0.0 0.0									No of persons	3
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis 13.8 0.0 0.0 0.0									Depth of underground wall(m)	0.0
Outer wall length(m) <1>	N E S W NE SE SW NW Shade 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									!Underground wall is valid only when outer wall is negative value.	
Window area on outer wall(m2) <1>	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									Humidifying method	-----
Non-conditioned inner wall length(m) <1>	0.0 0.0 0.0 2.8 0.0 0.0 0.0 0.0									Overall heat transfer coefficient (W/m2K) <1>	2.72
!Outer wall length with negative value is regarded as underground wall.										Outer wall	III
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800 0									Inner Wall	2.62
Operating time zone	8:00 to 18:00									Roof(without ceiling board)	2.16
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18									Ceiling(without ceiling board)	2.69
	Lighting 100 100 100 100 100 100 100 100 100 100 100									Mezz floor(with air layer)	1.49
	Persons 100 100 100 100 100 100 100 100 100 100 100									Mezz floor(without air layer)	2.69
	Equipments 100 100 100 100 100 100 100 100 100 100 100									Pilotis	3.29
										Earth floor	0.90
										Underground wall(depth<=2.4m)	1.56 (W/mK)
										Underground wall(depth>2.4m)	0.45
										Safety factor Cooling	1.10
										Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 5	1	1	1	Office	13.8	2.5	3	Summer 81.0/Winter ----

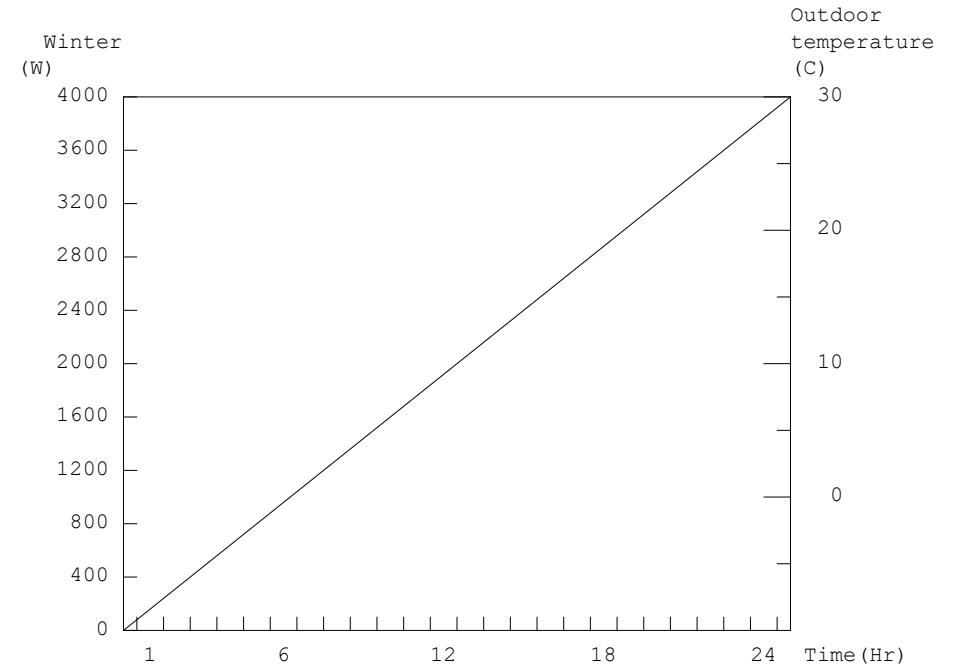
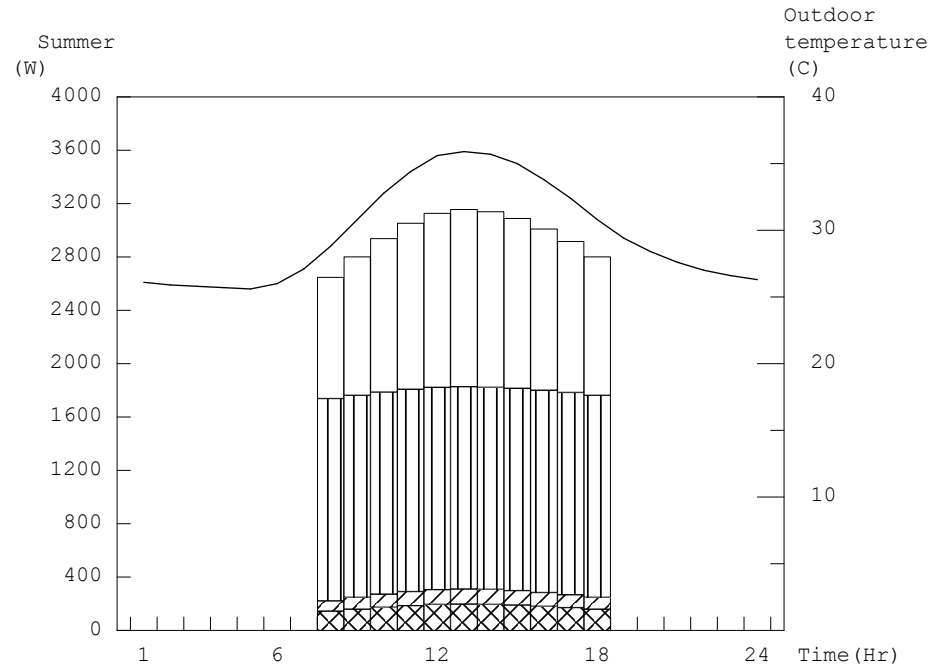
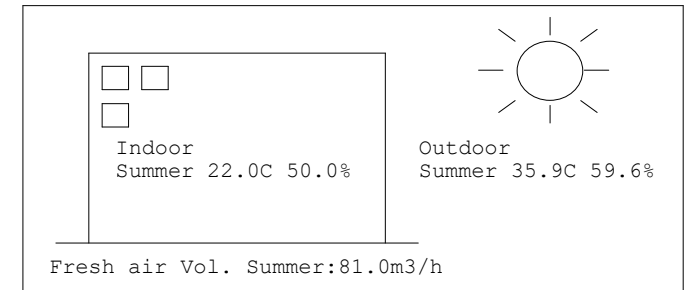
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	50	95	0	15	62	168	228	320	800	0	1448	290	909	2647 (2276)
9	30.8	71.4	0	0	65	95	0	20	68	168	228	320	800	0	1468	296	1037	2801 (2409)
10	32.8	66.5	0	0	79	95	0	25	73	168	228	320	800	0	1487	301	1151	2939 (2528)
11	34.4	63.0	0	0	91	95	0	28	78	168	228	320	800	0	1502	306	1245	3053 (2626)
12	35.6	60.0	0	0	100	95	0	31	80	168	228	320	800	0	1514	308	1305	3127 (2689)
*13	35.9	59.6	0	0	102	95	0	32	82	168	228	320	800	0	1517	310	1329	3156 (2714)
14	35.7	60.0	0	0	101	95	0	31	81	168	228	320	800	0	1515	309	1316	3140 (2700)
15	35.0	61.5	0	0	95	95	0	30	79	168	228	320	800	0	1508	307	1275	3090 (2657)
16	33.8	64.3	0	0	87	95	0	27	76	168	228	320	800	0	1497	304	1210	3011 (2589)
17	32.4	67.7	0	0	76	95	0	24	73	168	228	320	800	0	1483	301	1133	2917 (2509)
18	30.8	71.4	0	0	65	95	0	20	68	168	228	320	800	0	1468	296	1037	2801 (2409)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 5	1	1	1	Office	13.8	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	102	95	0	32	82	168	228	320	800	0	1329	3156	3472
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0				
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0				
City	Maceio/Brazil										Design room temperature in winter(CDB)	----				
											Design room humidity in winter(%RH)	----				
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)				
Max. fresh air temp. in summer(C)	35.9										Summer	27.0				
Min. fresh air temp. in winter(C)	----										Winter	----				
Room name	SALA DELEGADO 5										infiltration ventilation(Times/h)	Summer 0.20				
Floor No	1										Winter	----				
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)					
No of rooms	1										Lighting:--- Persons:--- Equipments:---					
Usage of Room	Office										Window type <1>	Clear 5mm				
Ceiling board	No										Blind type	Neutral tints				
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97				
Floor area(m2)	14.7										Lighting	Fluorescent lamp(W/m2) 20.0				
Ceiling height(m)	2.5											Incandescent lamp(W/m2) 0.0				
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof 0.0, Inclined roof 0.0, Window glass 0.0										No of persons	3				
Non-air-conditioned floor area(m2)	Earth floor 14.7, with air layer, Without air layer, Pilotis 0.0										Depth of underground wall(m)	0.0				
Outer wall length(m) <1>	N 0.0, E 5.0, S 0.0, W 0.0, NE 0.0, SE 0.0, SW 0.0, NW 0.0, Shade 0.0										!Underground wall is valid only when outer wall is negative value.					
Window area on outer wall(m2) <1>	0.0, 4.6, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0										Humidifying method	-----				
Non-conditioned inner wall length(m) <1>	0.0, 0.0, 3.0, 0.0, 0.0, 0.0, 0.0, 0.0										Overall heat transfer coefficient	(W/m2K)				
!Outer wall length with negative value is regarded as underground wall.												Outer wall	<1>	2.72	Wall type	III
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800, 0										Inner Wall	<1>	2.62			
Operating time zone	8:00 to 18:00										Roof(without ceiling board)		2.16	IV		
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18										Ceiling(without ceiling board)		2.69			
	Lighting 100 100 100 100 100 100 100 100 100 100 100										Mezz floor(with air layer)		1.49			
	Persons 100 100 100 100 100 100 100 100 100 100 100										Mezz floor(without air layer)		2.69			
	Equipments 100 100 100 100 100 100 100 100 100 100 100										Pilotis		3.29			
											Earth floor		0.90			
											Underground wall(depth<=2.4m)	1.56	(W/mK)			
											Underground wall(depth>2.4m)	0.45				
											Safety factor	Cooling	1.10			
												Heating	----			

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 5	1	1	1	Office	14.7	2.5	3	Summer 81.0/Winter ----

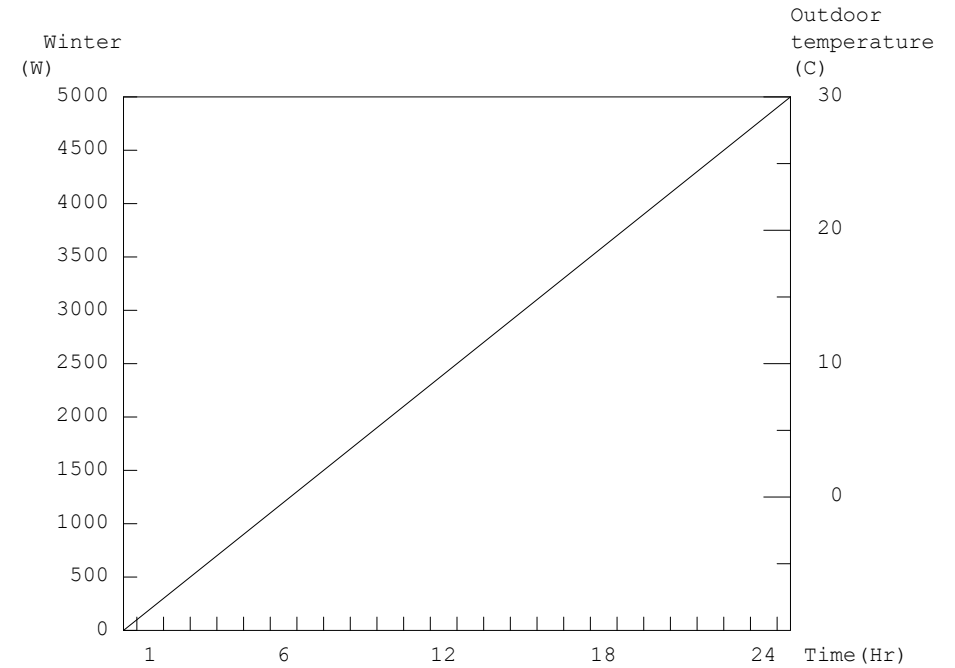
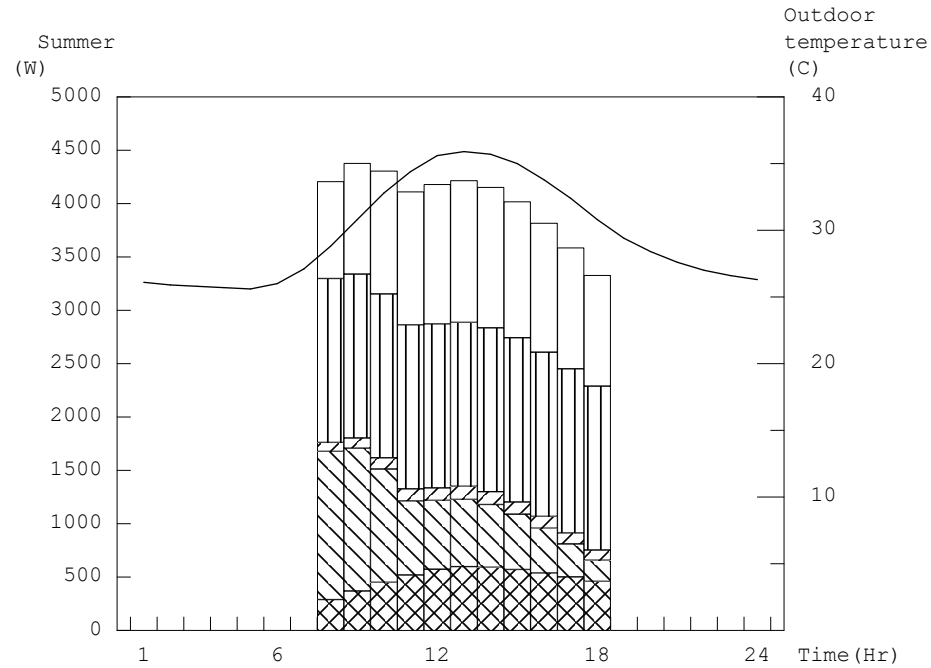
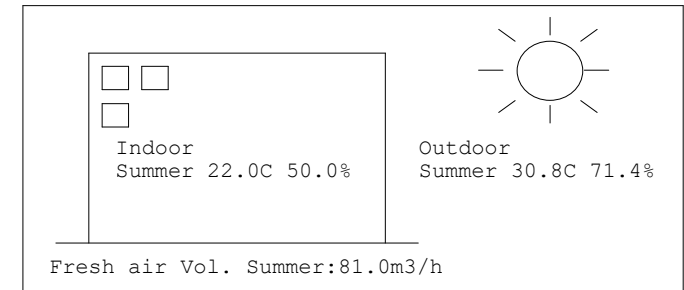
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	135	0	53	101	1391	16	66	168	228	341	800	0	3005	294	909	4208 (3619)
* 9	30.8	71.4	200	0	69	101	1341	21	73	168	228	341	800	0	3041	301	1037	4379 (3766)
10	32.8	66.5	266	0	85	101	1062	26	78	168	228	341	800	0	2849	306	1151	4306 (3703)
11	34.4	63.0	324	0	97	101	693	30	83	168	228	341	800	0	2554	311	1245	4110 (3535)
12	35.6	60.0	367	0	107	101	644	33	85	168	228	341	800	0	2561	313	1305	4179 (3594)
13	35.9	59.6	389	0	109	101	632	34	87	168	228	341	800	0	2574	315	1329	4218 (3627)
14	35.7	60.0	385	0	108	101	588	33	86	168	228	341	800	0	2524	314	1316	4154 (3572)
15	35.0	61.5	370	0	102	101	517	32	84	168	228	341	800	0	2431	312	1275	4018 (3455)
16	33.8	64.3	346	0	93	101	421	29	81	168	228	341	800	0	2299	309	1210	3818 (3283)
17	32.4	67.7	320	0	82	101	310	25	78	168	228	341	800	0	2147	306	1133	3586 (3084)
18	30.8	71.4	290	0	69	101	201	21	73	168	228	341	800	0	1991	301	1037	3329 (2863)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 5	1	1	1	Office	14.7	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	9	200	0	69	101	1341	21	73	168	228	341	800	0	1037	4379	4817
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		4	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 6	1	1	1	Office	18.4	2.5	4	Summer 108.0/Winter ----

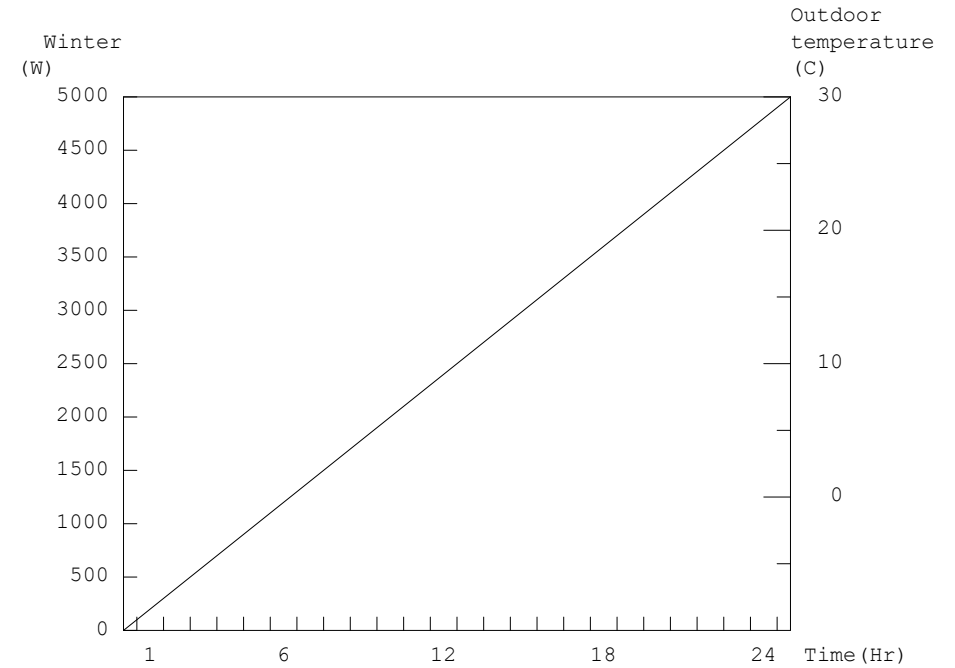
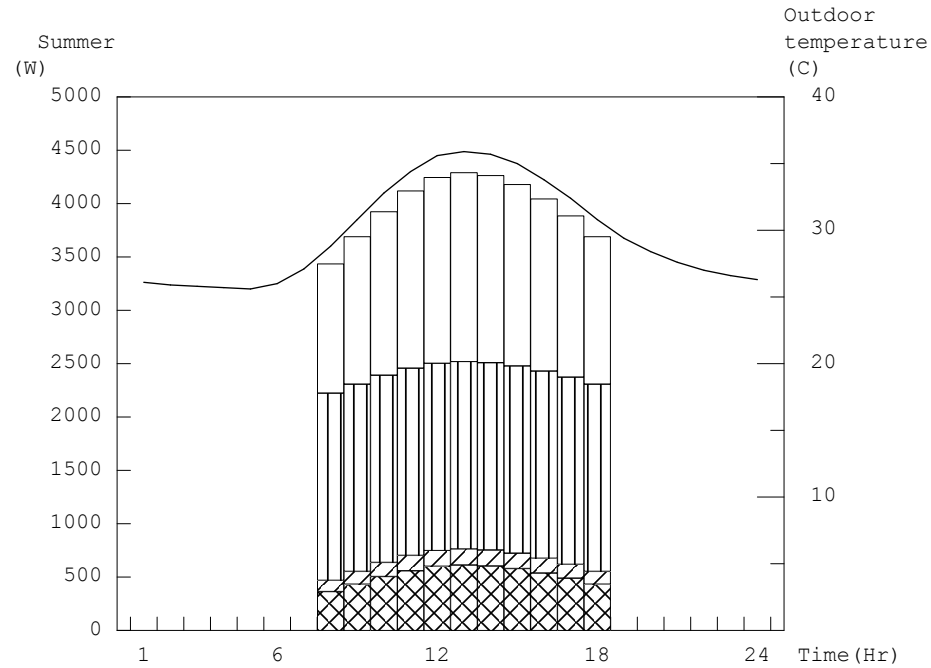
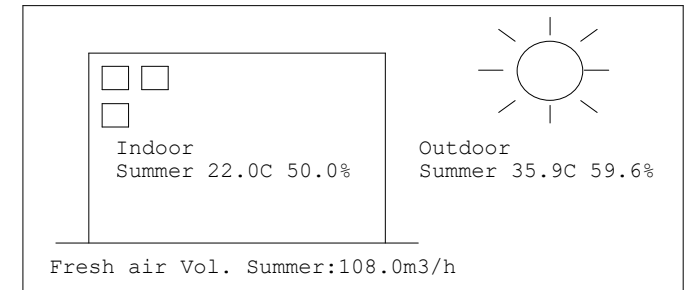
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	240	126	0	21	83	224	304	427	800	0	1838	387	1211	3436 (2955)
9	30.8	71.4	0	0	310	126	0	27	91	224	304	427	800	0	1914	395	1383	3692 (3175)
10	32.8	66.5	0	0	380	126	0	33	98	224	304	427	800	0	1990	402	1534	3926 (3376)
11	34.4	63.0	0	0	435	126	0	38	104	224	304	427	800	0	2050	408	1661	4119 (3542)
12	35.6	60.0	0	0	477	126	0	41	107	224	304	427	800	0	2095	411	1740	4246 (3652)
*13	35.9	59.6	0	0	488	126	0	42	109	224	304	427	800	0	2107	413	1771	4291 (3690)
14	35.7	60.0	0	0	480	126	0	42	108	224	304	427	800	0	2099	412	1755	4266 (3669)
15	35.0	61.5	0	0	455	126	0	39	105	224	304	427	800	0	2071	409	1701	4181 (3596)
16	33.8	64.3	0	0	413	126	0	36	102	224	304	427	800	0	2026	406	1614	4046 (3480)
17	32.4	67.7	0	0	366	126	0	32	97	224	304	427	800	0	1975	401	1511	3887 (3343)
18	30.8	71.4	0	0	310	126	0	27	91	224	304	427	800	0	1914	395	1383	3692 (3175)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 6	1	1	1	Office	18.4	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	488	126	0	42	109	224	304	427	800	0	1771	4291	4720
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0				
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0				
City	Maceio/Brazil										Design room temperature in winter(CDB)	----				
											Design room humidity in winter(%RH)	----				
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)				
Max. fresh air temp. in summer(C)	35.9										Summer	27.0				
Min. fresh air temp. in winter(C)	----										Winter	----				
Room name	SALA DELEGADO 6										infiltration ventilation(Times/h)	Summer 0.20				
Floor No	1										Winter	----				
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)					
No of rooms	1										Lighting:--- Persons:--- Equipments:---					
Usage of Room	Office										Window type <1>	Clear 5mm				
Ceiling board	No										Blind type	Neutral tints				
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97				
Floor area(m2)	13.9										Lighting Fluorescent lamp(W/m2)	20.0				
Ceiling height(m)	2.5										Incandescent lamp(W/m2)	0.0				
Roof&Non-air-conditioned ceiling area(m2)	0.0	Overhead room,	Flat roof	0.0	, Inclined roof	0.0	, Window glass	0.0	No of persons			3				
Non-air-conditioned floor area(m2)	13.9	Earth floor	, with air layer,	0.0	Without air layer,	0.0	Pilotis	0.0	Depth of underground wall(m)			0.0				
Outer wall length(m) <1>	0.0	N	E	S	W	NE	SE	SW	NW	Shade	!Underground wall is valid only when outer wall is negative value.					
Window area on outer wall(m2) <1>	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	Humidifying method		-----			
Non-conditioned inner wall length(m) <1>	1.2	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Overall heat transfer coefficient (W/m2K)		Wall type			
!Outer wall length with negative value is regarded as underground wall.												Outer wall	<1>	2.72	III	
Cooling load heat gain from equipments(W)	Sensible heat,	Latent heat	800	0									Inner Wall	<1>	2.62	
Operating time zone	8:00 to 18:00										Roof(without ceiling board)	2.16	IV			
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18	Ceiling(without ceiling board)	2.69		
	Lighting	100	100	100	100	100	100	100	100	100	100	100	Mezz floor(with air layer)	1.49		
	Persons	100	100	100	100	100	100	100	100	100	100	100	Mezz floor(without air layer)	2.69		
	Equipments	100	100	100	100	100	100	100	100	100	100	100	Pilotis	3.29		
													Earth floor	0.90		
													Underground wall(depth<=2.4m)	1.56	(W/mK)	
													Underground wall(depth>2.4m)	0.45		
													Safety factor	Cooling	1.10	
													Heating	----		

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 6	1	1	1	Office	13.9	2.5	3	Summer 81.0/Winter ----

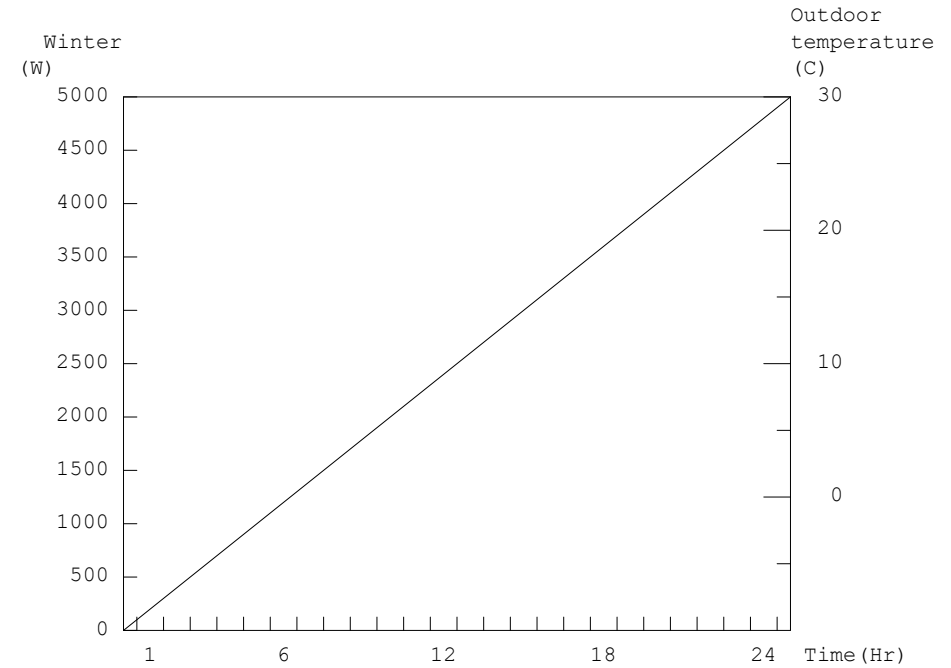
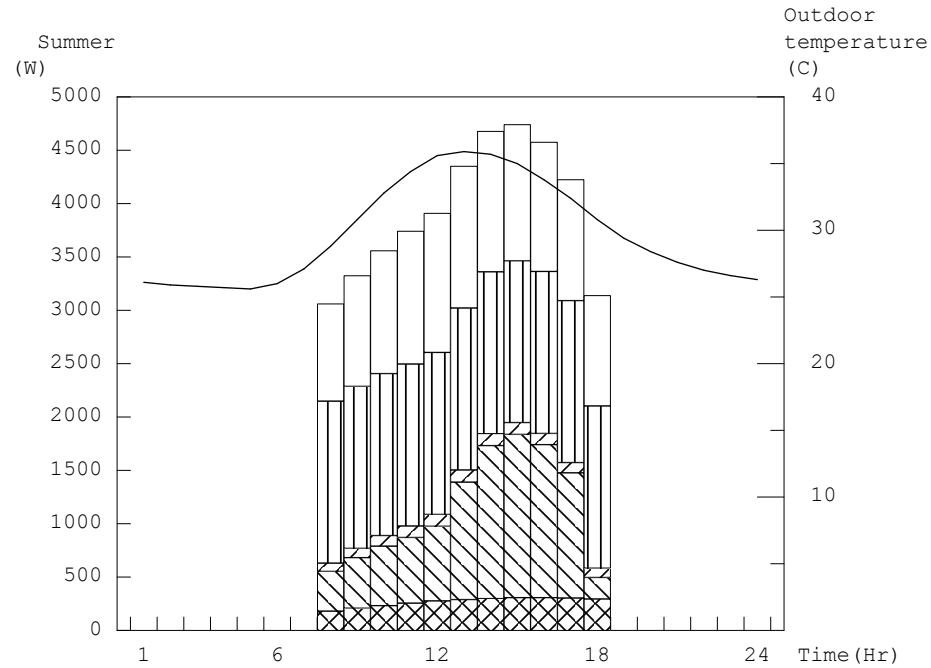
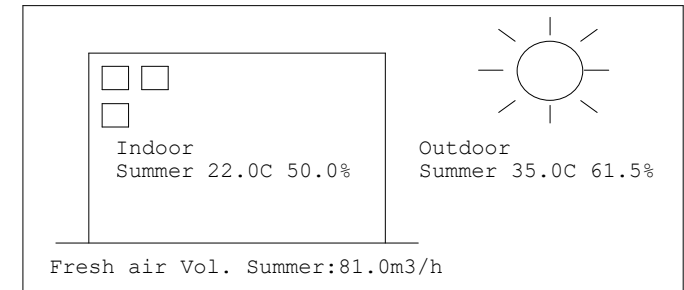
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	19	0	69	95	372	16	62	168	228	322	800	0	1861	290	909	3060 (2632)
9	30.8	71.4	23	0	90	95	474	20	69	168	228	322	800	0	1992	297	1037	3326 (2860)
10	32.8	66.5	28	0	110	95	558	25	74	168	228	322	800	0	2106	302	1151	3559 (3061)
11	34.4	63.0	35	0	127	95	616	28	78	168	228	322	800	0	2191	306	1245	3742 (3218)
12	35.6	60.0	44	0	139	95	699	31	81	168	228	322	800	0	2298	309	1305	3912 (3364)
13	35.9	59.6	54	0	142	95	1100	32	82	168	228	322	800	0	2713	310	1329	4352 (3743)
14	35.7	60.0	66	0	140	95	1431	31	82	168	228	322	800	0	3053	310	1316	4679 (4024)
*15	35.0	61.5	80	0	133	95	1530	30	80	168	228	322	800	0	3158	308	1275	4741 (4077)
16	33.8	64.3	93	0	120	95	1435	27	77	168	228	322	800	0	3060	305	1210	4575 (3935)
17	32.4	67.7	104	0	107	95	1171	24	73	168	228	322	800	0	2791	301	1133	4225 (3634)
18	30.8	71.4	111	0	90	95	201	20	69	168	228	322	800	0	1807	297	1037	3141 (2701)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 6	1	1	1	Office	13.9	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	80	0	133	95	1530	30	80	168	228	322	800	0	1275	4741	5215
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0				
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0				
City	Maceio/Brazil										Design room temperature in winter(CDB)	----				
											Design room humidity in winter(%RH)	----				
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)				
												Summer 27.0				
Max. fresh air temp. in summer(C)	35.9											Winter ----				
Min. fresh air temp. in winter(C)	----										infiltration ventilation(Times/h)	Summer 0.20				
												Winter ----				
Room name	CARTÓR. SECRET. 6										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)					
Floor No	1										Lighting:--- Persons:--- Equipments:---					
System No	1										Window type <1>	Clear 5mm				
											Blind type	Neutral tints				
No of rooms	1										Shading factor/OHTC	0.63/4.97				
Usage of Room	Office															
Ceiling board	No										Lighting	Fluorescent lamp(W/m2) 20.0				
Method of fresh air intake	Common ventilation fan											Incandescent lamp(W/m2) 0.0				
Floor area(m2)	13.1										No of persons	3				
Ceiling height(m)	2.5										Depth of underground wall(m)	0.0				
											!Underground wall is valid only when outer wall is negative value.					
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, 0.0	Flat roof 0.0								, Inclined roof 0.0			, Window glass 0.0	Humidifying method	-----	
Non-air-conditioned floor area(m2)	Earth floor 13.1	, with air layer 0.0								Without air layer 0.0			Pilotis 0.0	Overall heat transfer coefficient	(W/m2K)	
														Outer wall	<1> 2.72	
Outer wall length(m) <1>	N 0.0	E 0.0	S 0.0	W 2.6	NE 0.0	SE 0.0	SW 0.0	NW 0.0	Shade 0.0					Inner Wall	<1> 2.62	
Window area on outer wall(m2) <1>	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0					Roof(without ceiling board)	2.16	
Non-conditioned inner wall length(m) <1>	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0					Ceiling(without ceiling board)	2.69	
	!Outer wall length with negative value is regarded as underground wall.														Mezz floor(with air layer)	1.49
														Mezz floor(without air layer)	2.69	
Cooling load heat gain from equipments(W)	Sensible heat, 800	Latent heat 0													Pilotis	3.29
														Earth floor	0.90	
														Underground wall(depth<=2.4m)	1.56 (W/mK)	
														Underground wall(depth>2.4m)	0.45	
Operating time zone	8:00 to 18:00										Safety factor	Cooling 1.10				
														Heating	----	
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18				
	Lighting	100	100	100	100	100	100	100	100	100	100	100				
	Persons	100	100	100	100	100	100	100	100	100	100	100				
	Equipments	100	100	100	100	100	100	100	100	100	100	100				

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume (m3/h)
CARTÓR. SECRET. 6	1	1	1	Office	13.1	2.5	3	Summer 81.0/Winter ----

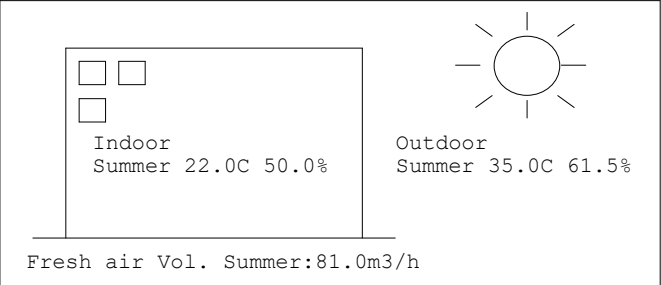
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	19	0	46	90	372	15	59	168	228	304	800	0	1814	287	909	3010 (2589)
9	30.8	71.4	23	0	60	90	474	19	65	168	228	304	800	0	1938	293	1037	3268 (2810)
10	32.8	66.5	28	0	74	90	558	23	70	168	228	304	800	0	2045	298	1151	3494 (3005)
11	34.4	63.0	35	0	84	90	616	27	74	168	228	304	800	0	2124	302	1245	3671 (3157)
12	35.6	60.0	44	0	93	90	699	29	76	168	228	304	800	0	2227	304	1305	3836 (3299)
13	35.9	59.6	54	0	95	90	1100	30	77	168	228	304	800	0	2641	305	1329	4275 (3677)
14	35.7	60.0	66	0	93	90	1431	30	77	168	228	304	800	0	2982	305	1316	4603 (3959)
*15	35.0	61.5	80	0	89	90	1530	28	75	168	228	304	800	0	3089	303	1275	4667 (4014)
16	33.8	64.3	93	0	80	90	1435	26	72	168	228	304	800	0	2996	300	1210	4506 (3875)
17	32.4	67.7	104	0	71	90	1171	22	69	168	228	304	800	0	2730	297	1133	4160 (3578)
18	30.8	71.4	111	0	60	90	201	19	65	168	228	304	800	0	1753	293	1037	3083 (2651)

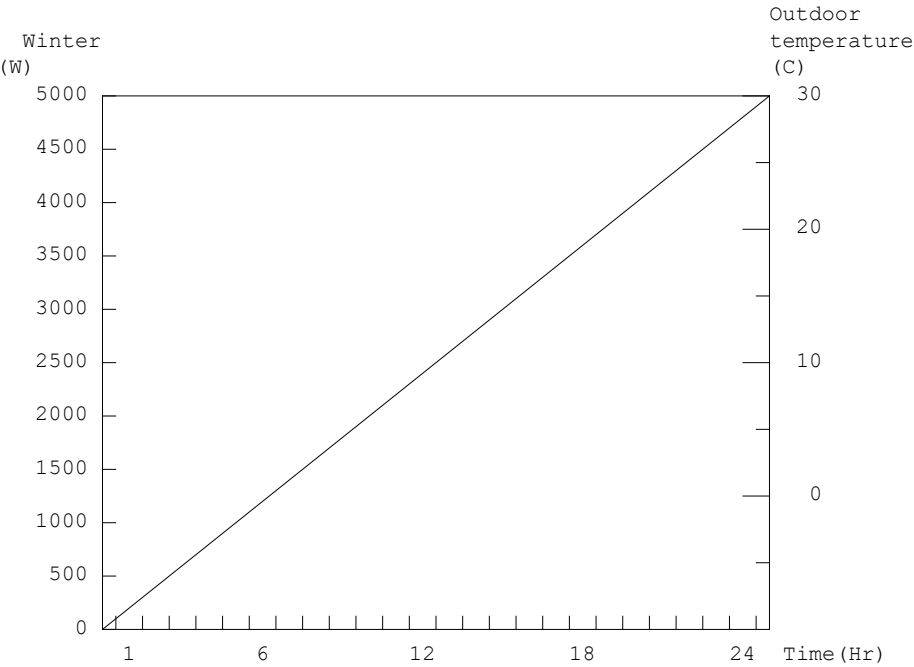
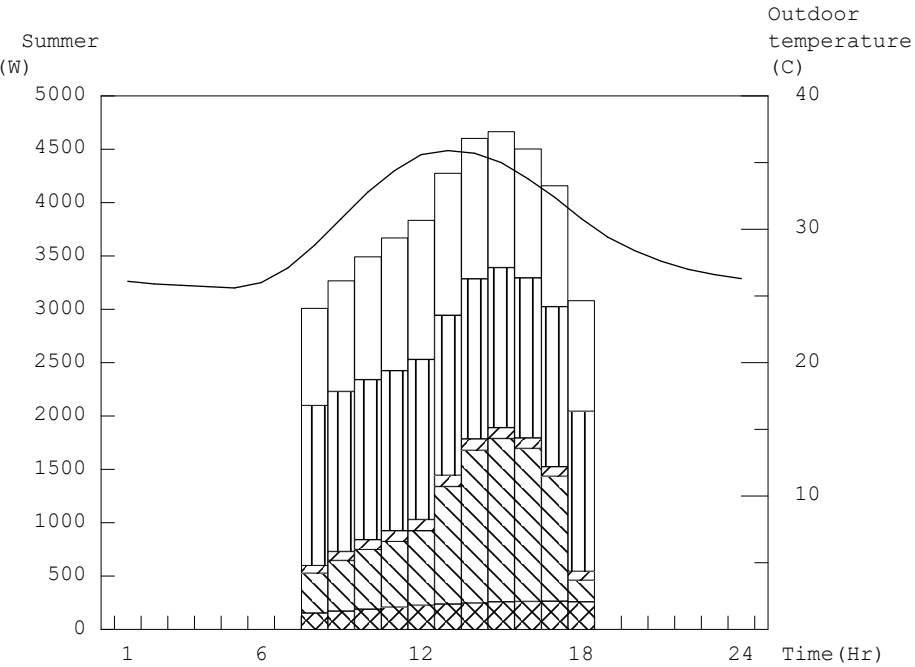
F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 6	1	1	1	Office	13.1	2.5	3



Fresh air Vol. Summer:81.0m3/h



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	80	0	89	90	1530	28	75	168	228	304	800	0	1275	4667	5134
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil										Design room temperature in winter(CDB)	----
											Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9										Summer	27.0
Min. fresh air temp. in winter(C)	----										Winter	----
Room name	SALA ANALISTAS 4										infiltration ventilation(Times/h)	Summer 0.20
Floor No	1										Winter	----
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1										Lighting:---	Persons:---
Usage of Room	Office										Equipments:---	
Ceiling board	No										Window type <1>	Clear 5mm
Method of fresh air intake	Common ventilation fan										Blind type	Neutral tints
Floor area(m2)	28.7										Shading factor/OHTC	0.63/4.97
Ceiling height(m)	2.5										Lighting Fluorescent lamp(W/m2)	20.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass										Incandescent lamp(W/m2)	0.0
	0.0 0.0 0.0 0.0										No of persons	4
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis										Depth of underground wall(m)	0.0
	28.7 0.0 0.0 0.0										!Underground wall is valid only when outer wall is negative value.	
Outer wall length(m) <1>	N E S W NE SE SW NW Shade										Humidifying method	-----
Window area on outer wall(m2)	0.0 0.0 0.0 4.6 0.0 0.0 0.0 0.0 0.0										Overall heat transfer coefficient (W/m2K)	
Non-conditioned inner wall length(m)	0.0 6.0 1.5 2.0 0.0 0.0 0.0 0.0										Outer wall <1>	2.72
!Outer wall length with negative value is regarded as underground wall.											Inner Wall <1>	2.62
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat										Roof(without ceiling board)	2.16
	1500 0										Ceiling(without ceiling board)	2.69
Operating time zone	8:00 to 18:00										Mezz floor(with air layer)	1.49
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18										Mezz floor(without air layer)	2.69
	Lighting 100 100 100 100 100 100 100 100 100 100 100										Pilotis	3.29
	Persons 100 100 100 100 100 100 100 100 100 100 100										Earth floor	0.90
	Equipments 100 100 100 100 100 100 100 100 100 100 100										Underground wall(depth<=2.4m)	1.56 (W/mK)
											Underground wall(depth>2.4m)	0.45
											Safety factor	Cooling 1.10
											Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume (m3/h)
SALA ANALISTAS 4	1	1	1	Office	28.7	2.5	4	Summer 108.0/Winter ----

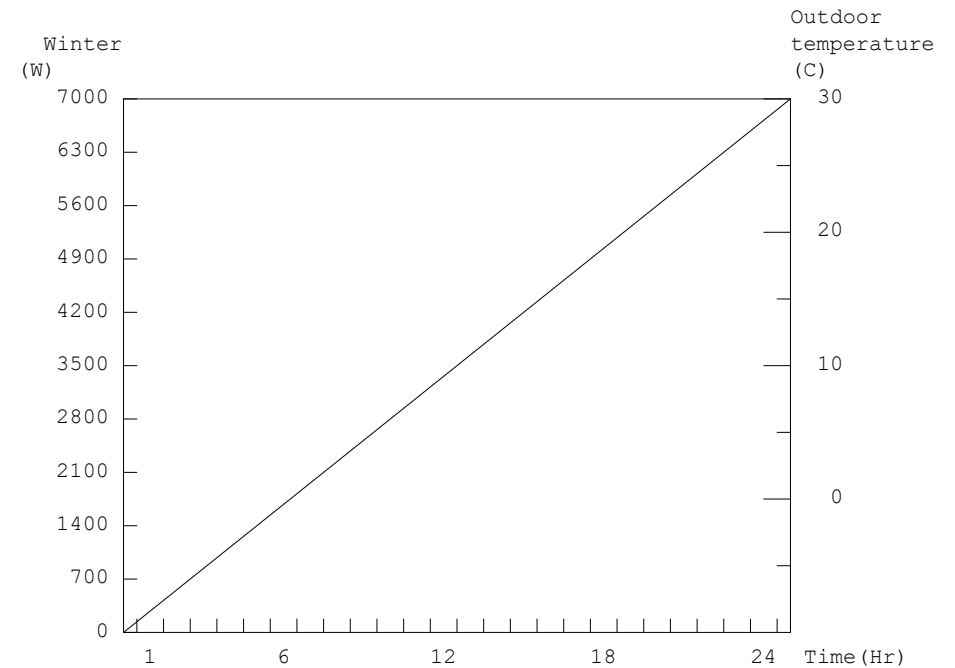
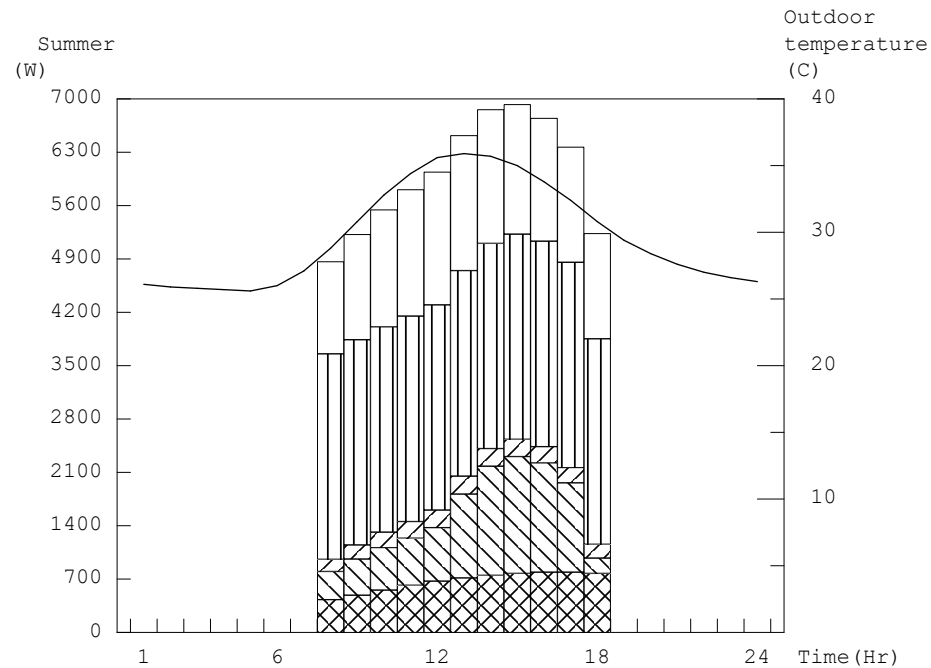
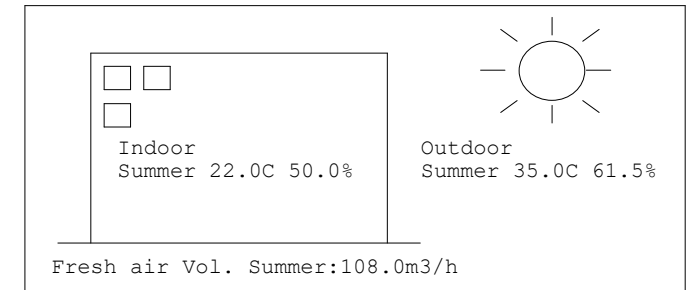
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	62	0	170	197	372	32	129	224	304	666	1500	0	3223	433	1211	4867 (4186)
9	30.8	71.4	74	0	219	197	474	42	142	224	304	666	1500	0	3396	446	1383	5225 (4494)
10	32.8	66.5	90	0	269	197	558	51	153	224	304	666	1500	0	3555	457	1534	5546 (4770)
11	34.4	63.0	114	0	309	197	616	59	162	224	304	666	1500	0	3685	466	1661	5812 (4998)
12	35.6	60.0	142	0	338	197	699	64	167	224	304	666	1500	0	3830	471	1740	6041 (5195)
13	35.9	59.6	174	0	347	197	1100	66	170	224	304	666	1500	0	4274	474	1771	6519 (5606)
14	35.7	60.0	212	0	341	197	1431	65	168	224	304	666	1500	0	4636	472	1755	6863 (5902)
*15	35.0	61.5	258	0	323	197	1530	62	164	224	304	666	1500	0	4760	468	1701	6929 (5959)
16	33.8	64.3	301	0	293	197	1435	56	159	224	304	666	1500	0	4672	463	1614	6749 (5804)
17	32.4	67.7	338	0	258	197	1171	49	151	224	304	666	1500	0	4403	455	1511	6369 (5477)
18	30.8	71.4	358	0	219	197	201	42	142	224	304	666	1500	0	3407	446	1383	5236 (4503)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person
SALA ANALISTAS 4	1	1	1	Office	28.7	2.5	4



[Detail]

[illegible]

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0			
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0			
City	Maceio/Brazil										Design room temperature in winter(CDB)	----			
											Design room humidity in winter(%RH)	----			
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)			
Max. fresh air temp. in summer(C)	35.9										Summer	27.0			
Min. fresh air temp. in winter(C)	----										Winter	----			
Room name	SALA DELEGADO 7										infiltration ventilation(Times/h)	Summer 0.20			
Floor No	1										Winter	----			
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)				
No of rooms	1										Lighting:--- Persons:--- Equipments:---				
Usage of Room	Office										Window type <1>	Clear 5mm			
Ceiling board	No										Blind type	Neutral tints			
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97			
Floor area(m2)	15.1														
Ceiling height(m)	2.5										No of persons	3			
Roof&Non-air-conditioned ceiling area(m2)	0.0	Overhead room,	Flat roof							Depth of underground wall(m)	0.0				
		0.0	0.0							!Underground wall is valid only when outer wall is negative value.					
Non-air-conditioned floor area(m2)	15.1	Earth floor	, with air layer,	Without air layer,	Pilotis							Humidifying method	-----		
		0.0	0.0	0.0	0.0							Overall heat transfer coefficient	(W/m2K)		
											Outer wall	<1>	2.72	Wall type	
Outer wall length(m) <1>	0.0	N	E	S	W	NE	SE	SW	NW	Shade	Inner Wall	<1>	2.62		
Window area on outer wall(m2) <1>	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	Roof(without ceiling board)		2.16	IV	
Non-conditioned inner<1> wall length(m)	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ceiling(without ceiling board)		2.69		
!Outer wall length with negative value is regarded as underground wall.											Mezz floor(with air layer)		1.49		
											Mezz floor(without air layer)		2.69		
											Pilotis		3.29		
Cooling load heat gain from equipments(W)	Sensible heat,	Latent heat										Earth floor		0.90	
	800	0										Underground wall(depth<=2.4m)		1.56	(W/mK)
												Underground wall(depth>2.4m)		0.45	
Operating time zone	8:00 to	18:00										Safety factor	Cooling	1.10	
												Heating	----		
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18			
	Lighting	100	100	100	100	100	100	100	100	100	100	100			
	Persons	100	100	100	100	100	100	100	100	100	100	100			
	Equipments	100	100	100	100	100	100	100	100	100	100	100			

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 7	1	1	1	Office	15.1	2.5	3	Summer 81.0/Winter ----

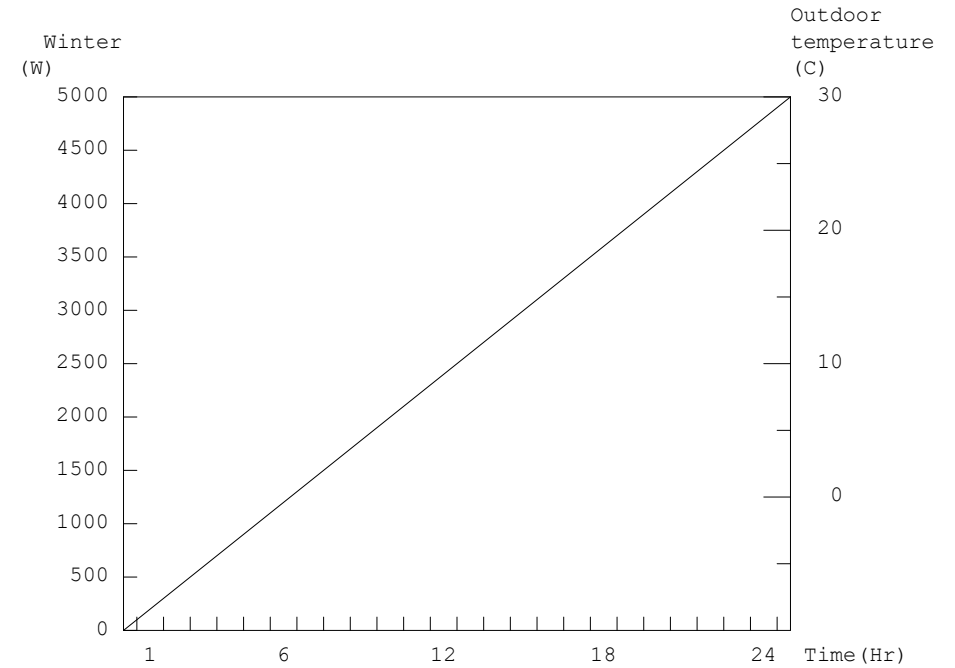
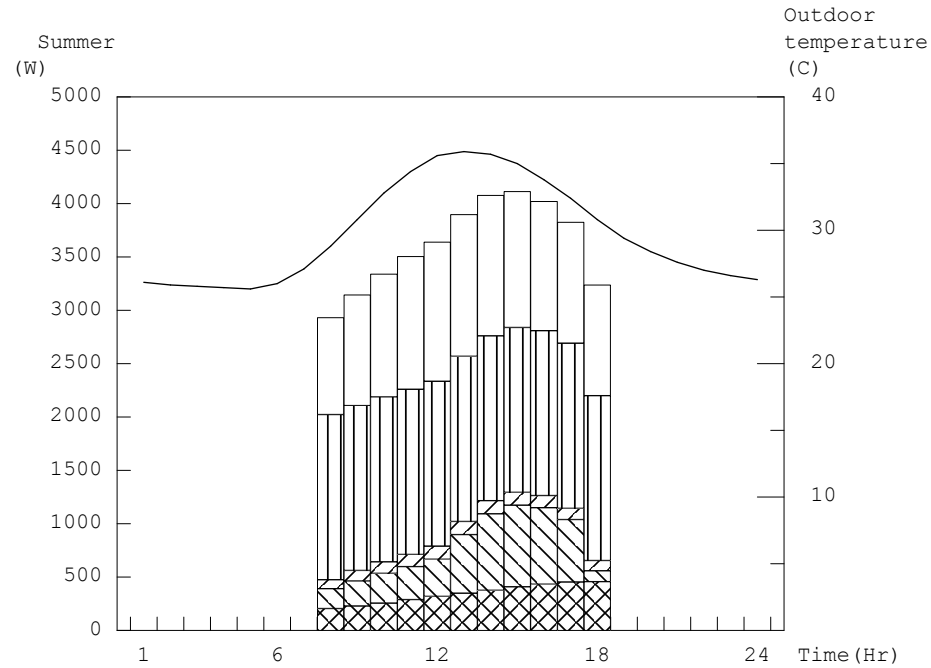
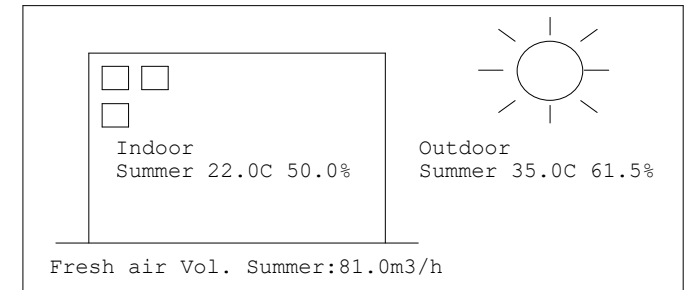
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	50	0	52	103	187	17	68	168	228	350	800	0	1727	296	909	2932 (2522)
9	30.8	71.4	59	0	67	103	237	22	75	168	228	350	800	0	1806	303	1037	3146 (2706)
10	32.8	66.5	73	0	82	103	279	27	80	168	228	350	800	0	1882	308	1151	3341 (2873)
11	34.4	63.0	92	0	94	103	309	31	85	168	228	350	800	0	1947	313	1245	3505 (3014)
12	35.6	60.0	114	0	103	103	349	34	88	168	228	350	800	0	2021	316	1305	3642 (3132)
13	35.9	59.6	140	0	106	103	550	35	89	168	228	350	800	0	2252	317	1329	3898 (3352)
14	35.7	60.0	171	0	104	103	716	34	89	168	228	350	800	0	2446	317	1316	4079 (3508)
*15	35.0	61.5	207	0	99	103	766	32	87	168	228	350	800	0	2525	315	1275	4115 (3539)
16	33.8	64.3	242	0	90	103	717	29	83	168	228	350	800	0	2499	311	1210	4020 (3457)
17	32.4	67.7	272	0	79	103	586	26	80	168	228	350	800	0	2384	308	1133	3825 (3290)
18	30.8	71.4	288	0	67	103	101	22	75	168	228	350	800	0	1899	303	1037	3239 (2786)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 7	1	1	1	Office	15.1	2.5	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	207	0	99	103	766	32	87	168	228	350	800	0	1275	4115	4527
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		3	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 7	1	1	1	Office	13.8	2.5	3	Summer 81.0/Winter ----

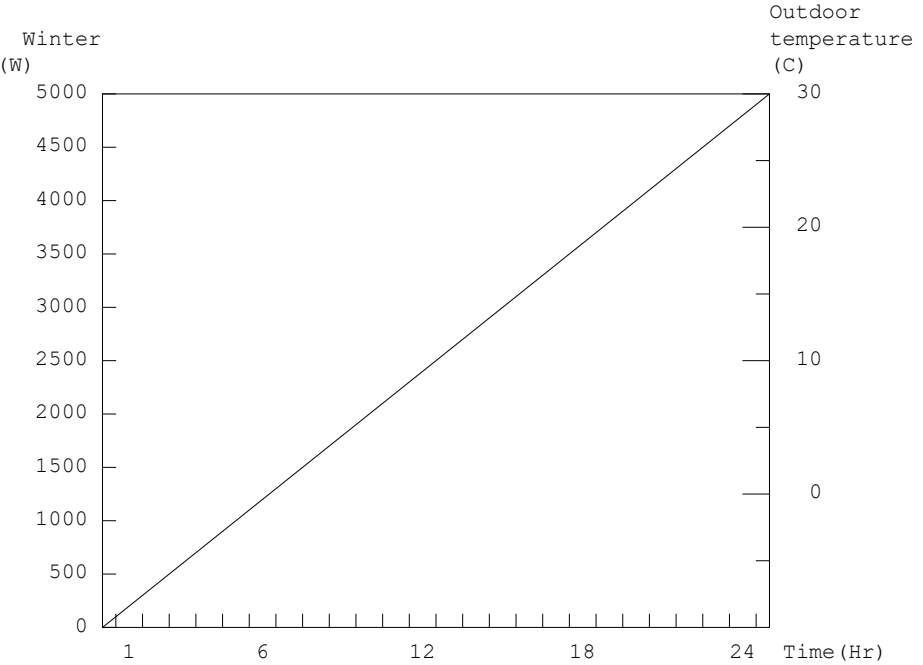
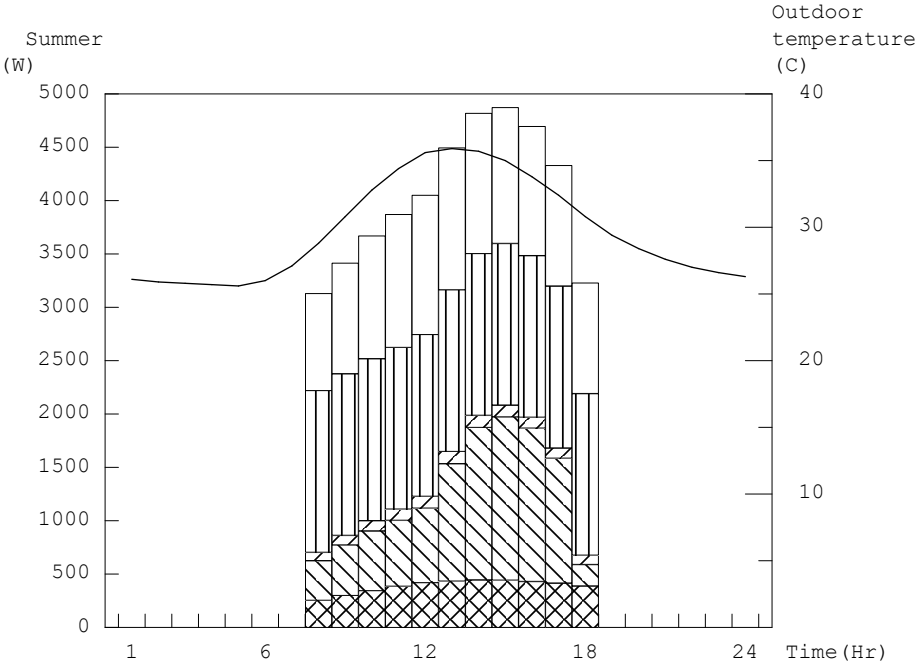
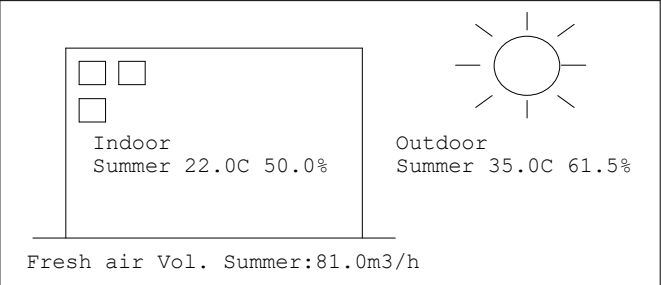
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	19	0	141	95	372	15	62	168	228	320	800	0	1930	290	909	3129 (2691)
9	30.8	71.4	23	0	182	95	474	20	68	168	228	320	800	0	2082	296	1037	3415 (2937)
10	32.8	66.5	28	0	223	95	558	25	73	168	228	320	800	0	2217	301	1151	3669 (3155)
11	34.4	63.0	35	0	257	95	616	28	78	168	228	320	800	0	2319	306	1245	3870 (3328)
12	35.6	60.0	44	0	281	95	699	31	80	168	228	320	800	0	2438	308	1305	4051 (3484)
13	35.9	59.6	54	0	287	95	1100	32	82	168	228	320	800	0	2856	310	1329	4495 (3866)
14	35.7	60.0	66	0	284	95	1431	31	81	168	228	320	800	0	3195	309	1316	4820 (4145)
*15	35.0	61.5	80	0	269	95	1530	30	79	168	228	320	800	0	3292	307	1275	4874 (4192)
16	33.8	64.3	93	0	244	95	1435	27	76	168	228	320	800	0	3182	304	1210	4696 (4039)
17	32.4	67.7	104	0	216	95	1171	24	73	168	228	320	800	0	2898	301	1133	4332 (3726)
18	30.8	71.4	111	0	182	95	201	20	68	168	228	320	800	0	1897	296	1037	3230 (2778)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 7	1	1	1	Office	13.8	2.5	3



[Detail]																
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	80	0	269	95	1530	30	79	168	228	320	800	0	1275	4874	5361
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		4	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 7(1)	1	1	1	Office	20.8	2.5	4	Summer 108.0/Winter ----

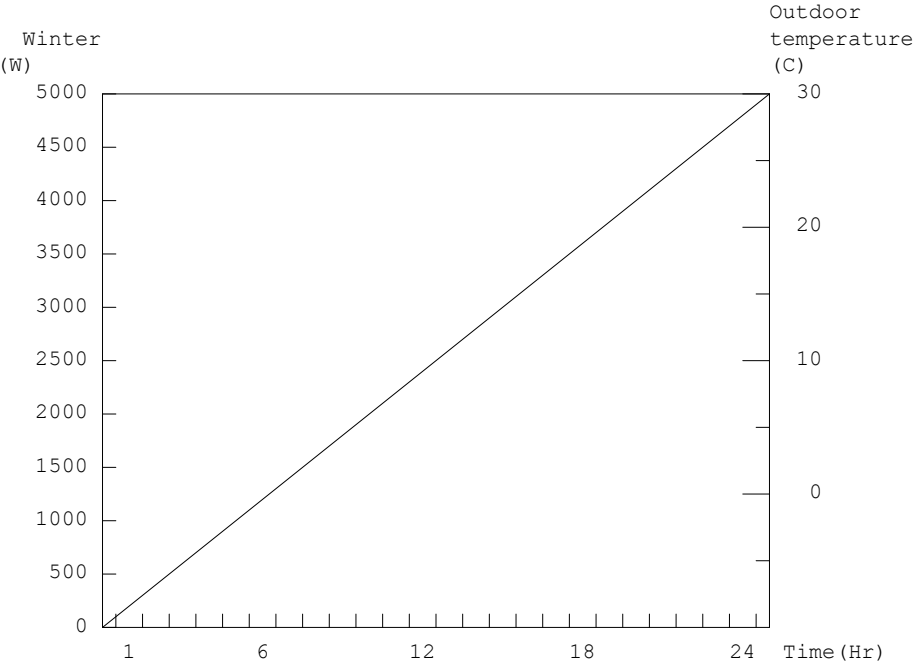
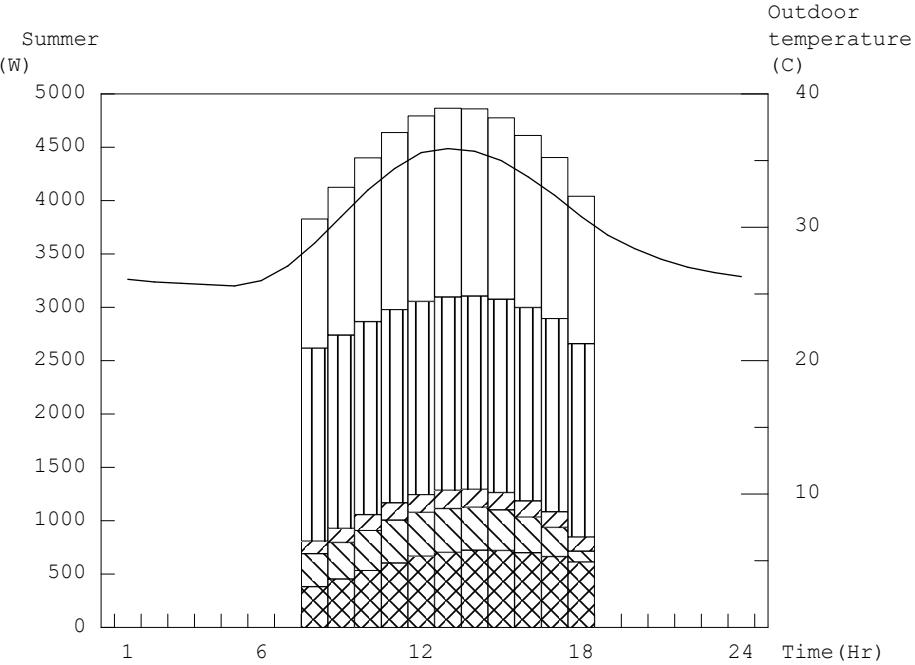
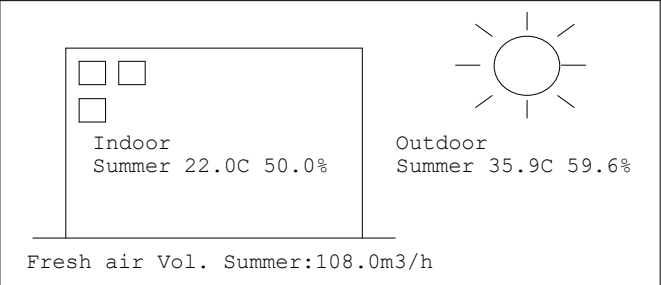
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	65	0	176	142	309	23	93	224	304	483	800	0	2222	397	1211	3830 (3294)
9	30.8	71.4	86	0	228	142	342	30	103	224	304	483	800	0	2335	407	1383	4125 (3548)
10	32.8	66.5	112	0	280	142	375	37	111	224	304	483	800	0	2453	415	1534	4402 (3786)
11	34.4	63.0	141	0	321	142	404	43	117	224	304	483	800	0	2558	421	1661	4640 (3990)
12	35.6	60.0	173	0	353	142	410	47	121	224	304	483	800	0	2632	425	1740	4797 (4125)
*13	35.9	59.6	202	0	360	142	411	48	123	224	304	483	800	0	2670	427	1771	4868 (4186)
14	35.7	60.0	226	0	356	142	403	47	122	224	304	483	800	0	2681	426	1755	4862 (4181)
15	35.0	61.5	243	0	337	142	380	45	119	224	304	483	800	0	2654	423	1701	4778 (4109)
16	33.8	64.3	253	0	306	142	332	40	115	224	304	483	800	0	2580	419	1614	4613 (3967)
17	32.4	67.7	253	0	270	142	273	36	110	224	304	483	800	0	2481	414	1511	4406 (3789)
18	30.8	71.4	245	0	228	142	101	30	103	224	304	483	800	0	2253	407	1383	4043 (3477)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 7(1)	1	1	1	Office	20.8	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	202	0	360	142	411	48	123	224	304	483	800	0	1771	4868	5355
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0			
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0			
City	Maceio/Brazil										Design room temperature in winter(CDB)	----			
											Design room humidity in winter(%RH)	----			
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)			
Max. fresh air temp. in summer(C)	35.9										Summer	27.0			
Min. fresh air temp. in winter(C)	----										Winter	----			
Room name	SALA ANALISTAS 7(2)										infiltration ventilation(Times/h)	Summer 0.20			
Floor No	1										Winter	----			
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)				
No of rooms	1										Lighting:--- Persons:--- Equipments:---				
Usage of Room	Office										Window type <1>	Clear 5mm			
Ceiling board	No										Blind type	Neutral tints			
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97			
Floor area(m2)	20.7										Lighting	Fluorescent lamp(W/m2) 20.0			
Ceiling height(m)	2.5										Incandescent lamp(W/m2)	0.0			
Roof&Non-air-conditioned ceiling area(m2)	0.0	Overhead room,	Flat roof							No of persons	4				
		0.0	0.0							Depth of underground wall(m)	0.0				
Non-air-conditioned floor area(m2)	20.7	Earth floor	, with air layer,	Without air layer,	Pilotis							!Underground wall is valid only when outer wall is negative value.			
		0.0	0.0	0.0	0.0							Humidifying method	-----		
Outer wall length(m) <1>	0.0	N	E	S	W	NE	SE	SW	NW	Shade	Overall heat transfer coefficient	(W/m2K)	Wall type		
Window area on outer wall(m2) <1>	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	Outer wall	<1>	2.72		
Non-conditioned inner wall length(m) <1>	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Inner Wall	<1>	2.62		
!Outer wall length with negative value is regarded as underground wall.											Roof(without ceiling board)	2.16	IV		
Cooling load heat gain from equipments(W)	Sensible heat,	Latent heat									Ceiling(without ceiling board)	2.69			
	800	0									Mezz floor(with air layer)	1.49			
											Mezz floor(without air layer)	2.69			
											Pilotis	3.29			
Operating time zone	8:00 to 18:00										Earth floor	0.90	(W/mK)		
											Underground wall(depth<=2.4m)	1.56			
											Underground wall(depth>2.4m)	0.45			
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18	Safety factor	Cooling	1.10
	Lighting	100	100	100	100	100	100	100	100	100	100	100	Heating	----	
	Persons	100	100	100	100	100	100	100	100	100	100	100			
	Equipments	100	100	100	100	100	100	100	100	100	100	100			

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 7(2)	1	1	1	Office	20.7	2.5	4	Summer 108.0/Winter ----

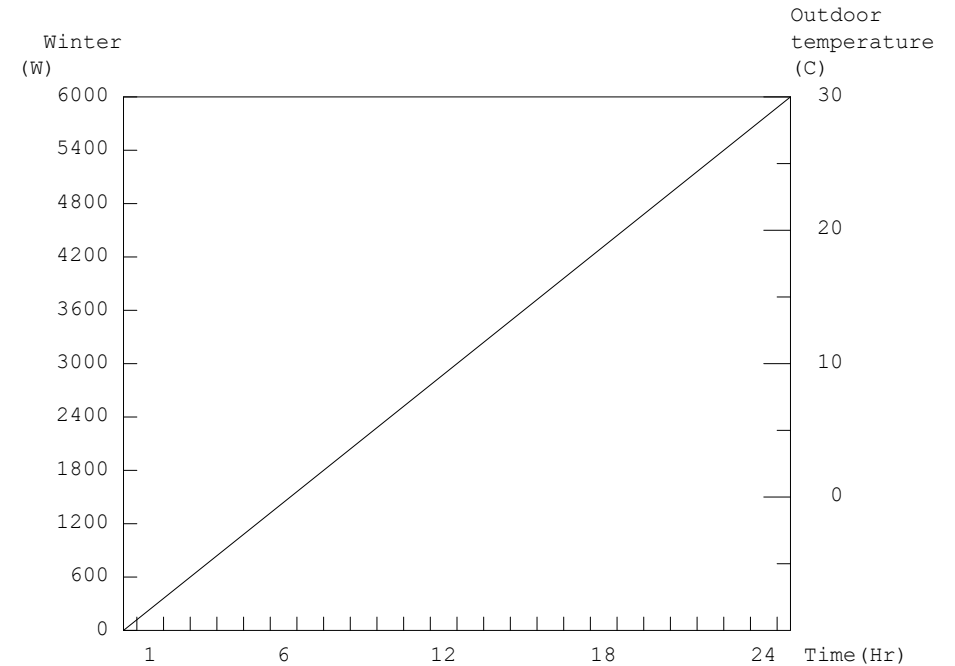
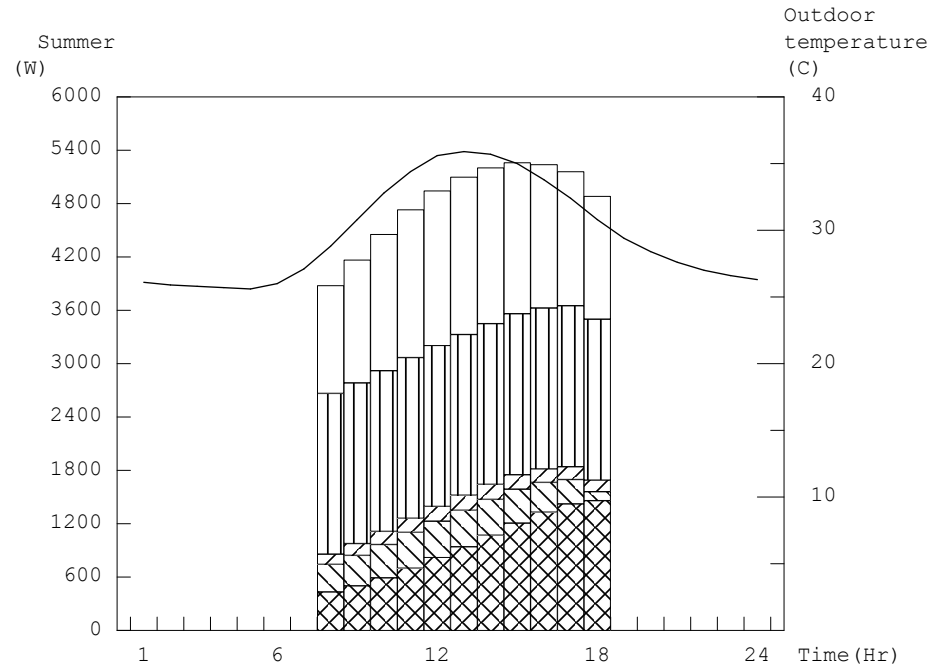
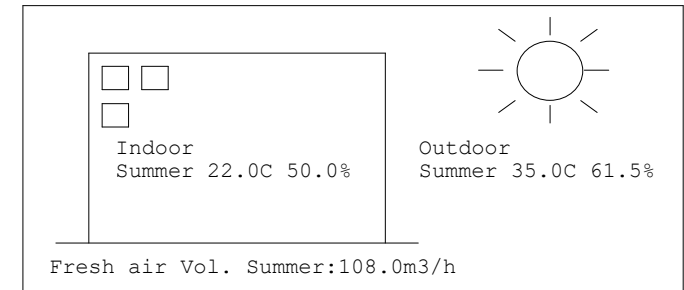
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	239	0	53	142	309	23	93	224	304	480	800	0	2270	397	1211	3878 (3335)
9	30.8	71.4	292	0	69	142	342	30	102	224	304	480	800	0	2379	406	1383	4168 (3584)
10	32.8	66.5	365	0	85	142	375	37	110	224	304	480	800	0	2508	414	1534	4456 (3832)
11	34.4	63.0	460	0	97	142	404	42	117	224	304	480	800	0	2649	421	1661	4731 (4069)
12	35.6	60.0	572	0	107	142	410	46	120	224	304	480	800	0	2781	424	1740	4945 (4253)
13	35.9	59.6	690	0	109	142	411	47	122	224	304	480	800	0	2903	426	1771	5100 (4386)
14	35.7	60.0	822	0	108	142	403	47	121	224	304	480	800	0	3026	425	1755	5206 (4477)
*15	35.0	61.5	966	0	102	142	380	44	119	224	304	480	800	0	3138	423	1701	5262 (4525)
16	33.8	64.3	1098	0	93	142	332	40	114	224	304	480	800	0	3209	418	1614	5241 (4507)
17	32.4	67.7	1201	0	82	142	273	36	109	224	304	480	800	0	3238	413	1511	5162 (4439)
18	30.8	71.4	1249	0	69	142	101	30	102	224	304	480	800	0	3095	406	1383	4884 (4200)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 7(2)	1	1	1	Office	20.7	2.5	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	966	0	102	142	380	44	119	224	304	480	800	0	1701	5262	5788
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

CARGA TERMICA

Project Name: SUPERINTENDENCIA POLICIA FEDERAL – ALAGOAS

Address: AV. WALTER ANANIAS, 705 – JARAGUA – MACEIO/AL

25/June/2020

VM PROJETOS

Heat load sum up table

(Upper:W, Lower:kcal/h)

Room name	Fl	Sys-tem	Qty. of rooms	Cooling				Heating				Floor area	Heat load per area	
				Indoor SH	Total	Selected	Time	Total	Selected	Humid.	Time		Cooling	Heating
				[W] (kcal/h)			[Hr]	[W] (kcal/h)		[kg/h]	[Hr]		[m2]	[W/m2] (kcal/hm2)
SALA ANALISTAS 8	1	1	1	2232 (1920)	4440 (3818)	4884 (4200)	13					20.8	234.8 (201.9)	
CARTÓR. SECRET. 8	1	1	1	1694 (1457)	3320 (2855)	3652 (3141)	13					10.8	338.1 (290.8)	
SALA DELEGADO 8	1	1	1	1750 (1505)	3371 (2899)	3708 (3189)	13					10.1	367.1 (315.7)	
SALA ANALISTAS 9	1	1	1	2038 (1753)	4239 (3646)	4663 (4010)	13					19.7	236.7 (203.6)	
CARTÓR. SECRET. 9	1	1	1	4830 (4154)	6429 (5529)	7072 (6082)	15					15.5	456.3 (392.4)	
SALA DELEGADO 9	1	1	1	1506 (1295)	3142 (2702)	3456 (2972)	13					12.4	278.7 (239.7)	
SALA ANALISTA 10	1	1	1	2787 (2397)	4999 (4299)	5499 (4729)	14					24.2	227.2 (195.4)	
CARTÓR. SECRET. 10	1	1	1	2322 (1997)	3982 (3425)	4380 (3767)	13					16.2	270.4 (232.5)	
SALA DELEGADO 10	1	1	1	2639 (2270)	4327 (3721)	4760 (4093)	13					20.5	232.2 (199.7)	
SALA ANALISTAS 11	1	1	1	2190 (1883)	4418 (3799)	4860 (4179)	13					24.0	202.5 (174.1)	
CARTÓR. SECRET. 11	1	1	1	1580 (1359)	3233 (2780)	3556 (3058)	13					15.1	235.5 (202.5)	
SALA DELEGADO 11	1	1	1	1585 (1363)	3239 (2786)	3563 (3064)	13					15.2	234.4 (201.6)	
Peak load of building				12	26850 (23091)	48734 (41911)	53607 (46102)	14				204.5	262.1 (225.4)	

SH : Sensible heat

Table of system heat load

(Upper:W, Lower:kcal/h)

Sys -tem	Cooling							Heating						
	Time	F/A vol	Indoor SH	Indoor	Outside	Total	Selected	Time	F/A vol	Indoor	Outside	Total	Selected	Humid.
	[Hr]	[m3/h]	[W] (kcal/h)					[Hr]	[m3/h]	[W] (kcal/h)				
1	14	1080	26850 (23091)	31186 (26820)	17548 (15091)	48734 (41911)	53607 (46102)							

F/A : Fresh air
SH : Sensible heat

System table

System	Room name	Floor	Rooms
1	SALA ANALISTAS 8	1	1
1	CARTÓR. SECRET. 8	1	1
1	SALA DELEGADO 8	1	1
1	SALA ANALISTAS 9	1	1
1	CARTÓR. SECRET. 9	1	1
1	SALA DELEGADO 9	1	1
1	SALA ANALISTA 10	1	1
1	CARTÓR. SECRET. 10	1	1
1	SALA DELEGADO 10	1	1
1	SALA ANALISTAS 11	1	1
1	CARTÓR. SECRET. 11	1	1
1	SALA DELEGADO 11	1	1

System	Room name	Floor	Rooms

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		4	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)	2.16		IV
Ceiling(without ceiling board)	2.69		
Mezz floor(with air layer)	1.49		
Mezz floor(without air layer)	2.69		
Pilotis	3.29		
Earth floor	0.90		
Underground wall(depth<=2.4m)	1.56	(W/mK)	
Underground wall(depth>2.4m)	0.45		
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 8	1	1	1	Office	20.8	2.7	4	Summer 108.0/Winter ----

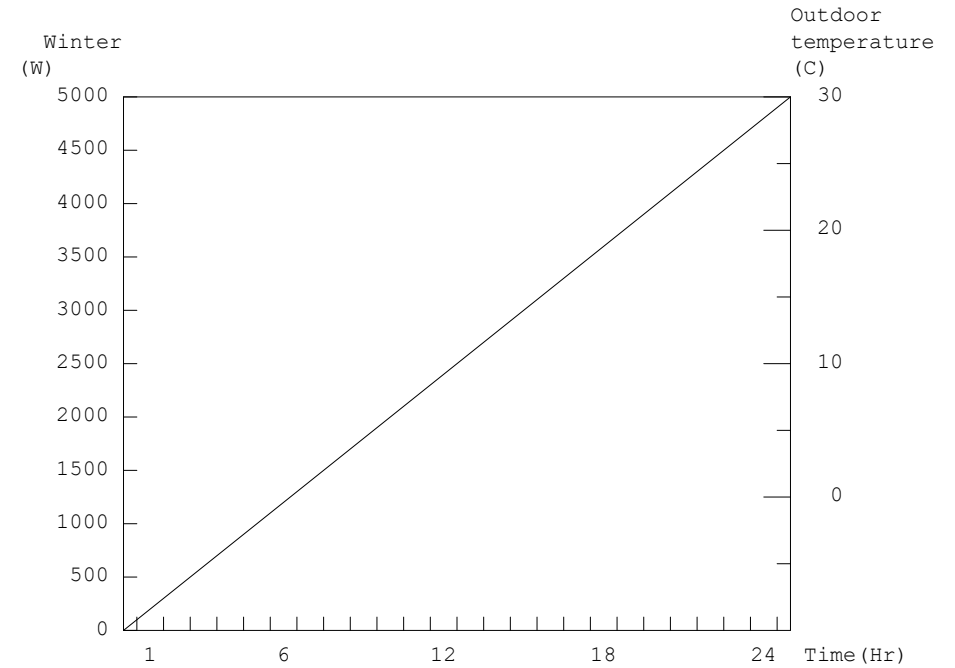
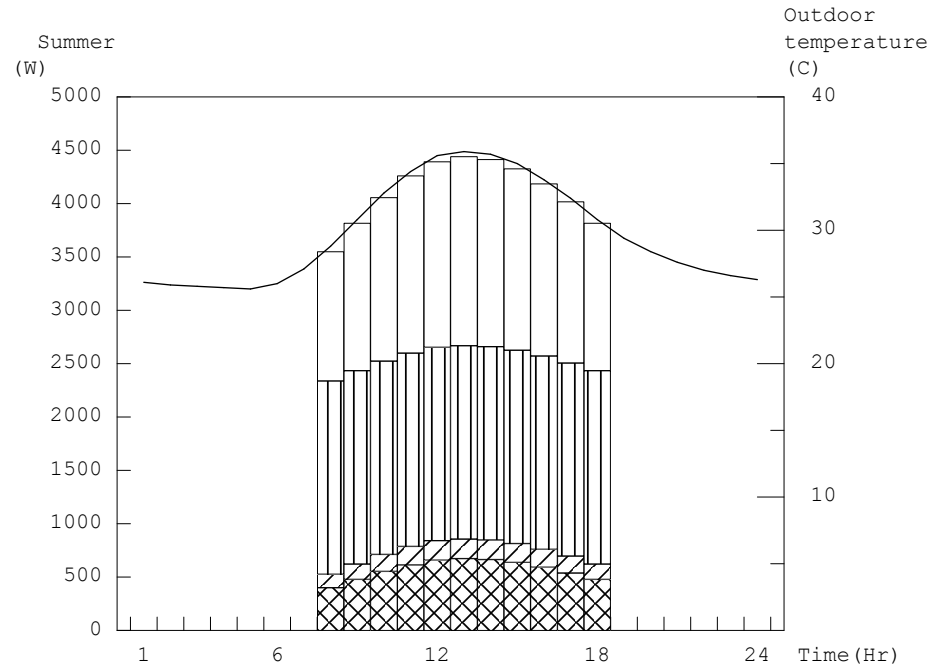
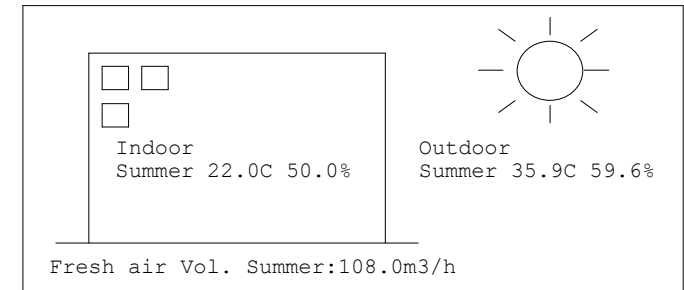
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	260	142	0	25	101	224	304	483	800	0	1934	405	1211	3550 (3053)
9	30.8	71.4	0	0	337	142	0	33	111	224	304	483	800	0	2019	415	1383	3817 (3283)
10	32.8	66.5	0	0	412	142	0	40	119	224	304	483	800	0	2101	423	1534	4058 (3490)
11	34.4	63.0	0	0	473	142	0	46	127	224	304	483	800	0	2168	431	1661	4260 (3664)
12	35.6	60.0	0	0	519	142	0	50	131	224	304	483	800	0	2218	435	1740	4393 (3778)
*13	35.9	59.6	0	0	531	142	0	52	133	224	304	483	800	0	2232	437	1771	4440 (3818)
14	35.7	60.0	0	0	524	142	0	51	132	224	304	483	800	0	2224	436	1755	4415 (3797)
15	35.0	61.5	0	0	497	142	0	48	129	224	304	483	800	0	2194	433	1701	4328 (3722)
16	33.8	64.3	0	0	451	142	0	44	124	224	304	483	800	0	2144	428	1614	4186 (3600)
17	32.4	67.7	0	0	397	142	0	39	119	224	304	483	800	0	2085	423	1511	4019 (3456)
18	30.8	71.4	0	0	337	142	0	33	111	224	304	483	800	0	2019	415	1383	3817 (3283)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 8	1	1	1	Office	20.8	2.7	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	531	142	0	52	133	224	304	483	800	0	1771	4440	4884
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil										Design room temperature in winter(CDB)	----
											Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)
												Summer 27.0
Max. fresh air temp. in summer(C)	35.9											Winter ----
Min. fresh air temp. in winter(C)	----										infiltration ventilation(Times/h)	Summer 0.20
												Winter ----
Room name	CARTÓR. SECRET. 8										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
Floor No	1										Lighting:--- Persons:--- Equipments:---	
System No	1										Window type <1>	Clear 5mm
											Blind type	Neutral tints
No of rooms	1										Shading factor/OHTC	0.63/4.97
Usage of Room	Office											
Ceiling board	No										Lighting	Fluorescent lamp(W/m2) 20.0
Method of fresh air intake	Common ventilation fan											Incandescent lamp(W/m2) 0.0
Floor area(m2)	10.8										No of persons	3
Ceiling height(m)	2.7										Depth of underground wall(m)	0.0
											!Underground wall is valid only when outer wall is negative value.	
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof 0.0, Inclined roof 0.0, Window glass 0.0										Humidifying method	-----
Non-air-conditioned floor area(m2)	Earth floor 10.8, with air layer, Without air layer, Pilotis 0.0										Overall heat transfer coefficient	(W/m2K)
											Outer wall	<1> 2.72
											Inner Wall	<1> 2.62
Outer wall length(m) <1>	0.0	N	E	S	W	NE	SE	SW	NW	Shade		
Window area on outer wall(m2) <1>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		IV
Non-conditioned inner wall length(m) <1>	0.3	3.7	3.0	2.5	0.0	0.0	0.0	0.0	0.0			
	!Outer wall length with negative value is regarded as underground wall.										Roof(without ceiling board)	2.16
											Ceiling(without ceiling board)	2.69
											Mezz floor(with air layer)	1.49
											Mezz floor(without air layer)	2.69
											Pilotis	3.29
											Earth floor	0.90
											Underground wall(depth<=2.4m)	1.56 (W/mK)
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800 0										Underground wall(depth>2.4m)	0.45
											Safety factor	Cooling 1.10
Operating time zone	8:00 to 18:00											Heating ----
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18
	Lighting	100	100	100	100	100	100	100	100	100	100	100
	Persons	100	100	100	100	100	100	100	100	100	100	100
	Equipments	100	100	100	100	100	100	100	100	100	100	100

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 8	1	1	1	Office	10.8	2.7	3	Summer 81.0/Winter ----

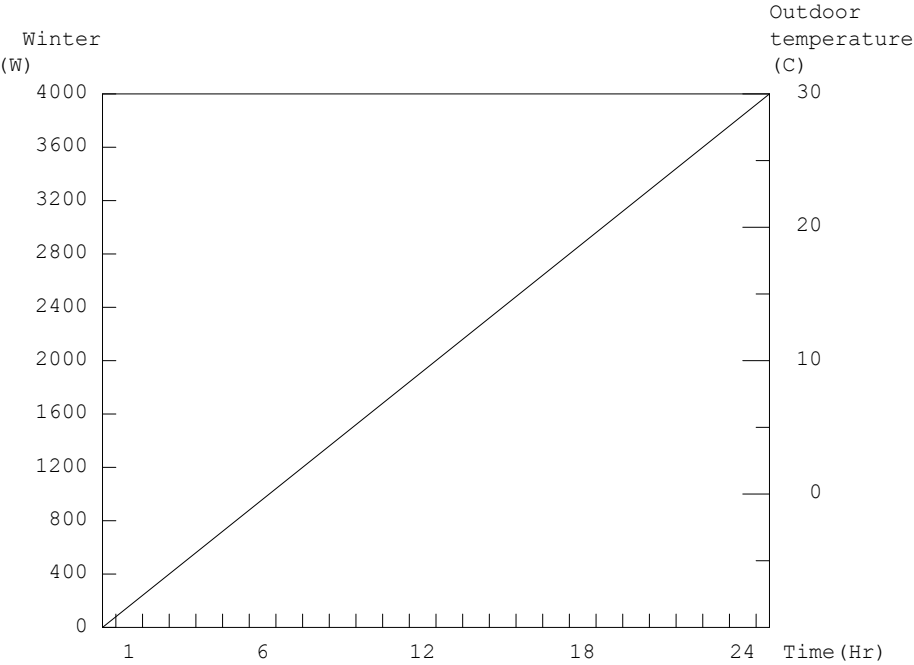
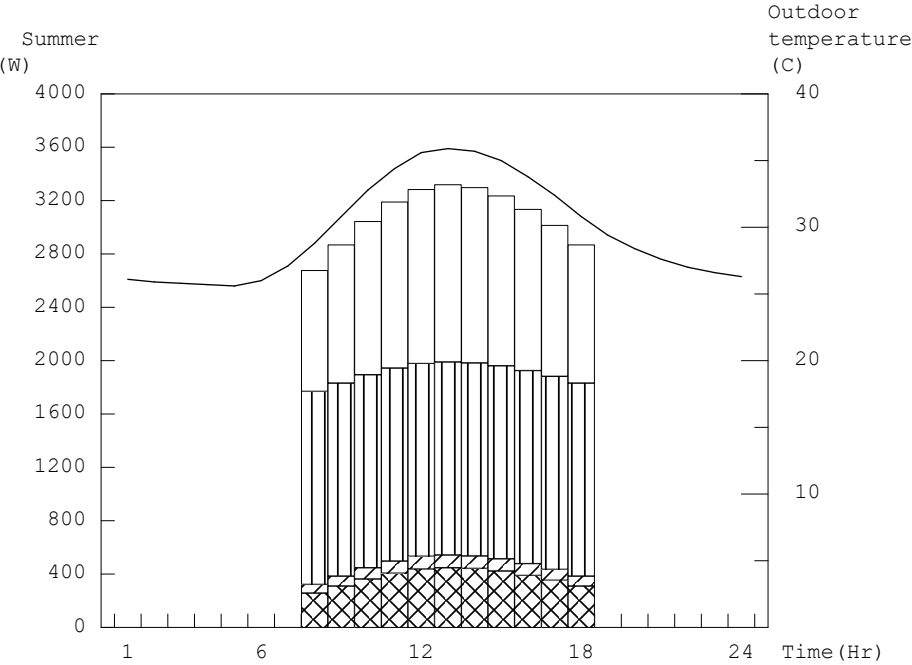
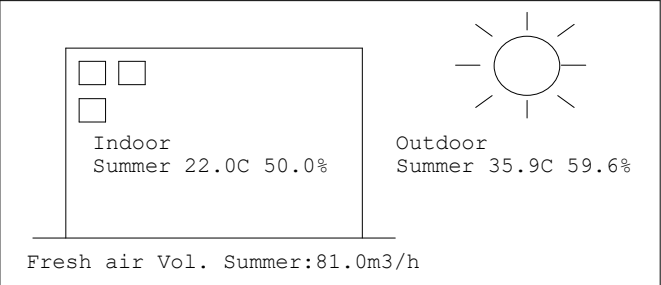
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)




Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	183	74	0	13	52	168	228	251	800	0	1489	280	909	2678 (2303)
9	30.8	71.4	0	0	236	74	0	17	58	168	228	251	800	0	1546	286	1037	2869 (2467)
10	32.8	66.5	0	0	290	74	0	21	62	168	228	251	800	0	1604	290	1151	3045 (2619)
11	34.4	63.0	0	0	334	74	0	24	66	168	228	251	800	0	1651	294	1245	3190 (2743)
12	35.6	60.0	0	0	365	74	0	26	68	168	228	251	800	0	1684	296	1305	3285 (2825)
*13	35.9	59.6	0	0	374	74	0	27	69	168	228	251	800	0	1694	297	1329	3320 (2855)
14	35.7	60.0	0	0	368	74	0	26	68	168	228	251	800	0	1687	296	1316	3299 (2837)
15	35.0	61.5	0	0	349	74	0	25	67	168	228	251	800	0	1667	295	1275	3237 (2784)
16	33.8	64.3	0	0	317	74	0	23	64	168	228	251	800	0	1633	292	1210	3135 (2696)
17	32.4	67.7	0	0	280	74	0	20	62	168	228	251	800	0	1593	290	1133	3016 (2594)
18	30.8	71.4	0	0	236	74	0	17	58	168	228	251	800	0	1546	286	1037	2869 (2467)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 8	1	1	1	Office	10.8	2.7	3



[Detail]																					
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Fresh air	Total heat load	Selected heat load					
							SH	LH	SH	LH		SH	LH								
Summer	13	0	0	374	74	0	27	69	168	228	251	800	0	1329	3320	3652					
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----					

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil										Design room temperature in winter(CDB)	----
											Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9										Summer	27.0
Min. fresh air temp. in winter(C)	----										Winter	----
Room name	SALA DELEGADO 8										infiltration ventilation(Times/h)	Summer 0.20
Floor No	1										Winter	----
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1										Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office										Window type <1>	Clear 5mm
Ceiling board	No										Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97
Floor area(m2)	10.1										Lighting Fluorescent lamp(W/m2)	20.0
Ceiling height(m)	2.7										Incandescent lamp(W/m2)	0.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass										No of persons	3
	0.0 0.0 0.0 0.0										Depth of underground wall(m)	0.0
											!Underground wall is valid only when outer wall is negative value.	
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis										Humidifying method	-----
	10.1 0.0 0.0 0.0										Overall heat transfer coefficient	(W/m2K)
Outer wall length(m) <1>	N E S W NE SE SW NW Shade										Outer wall	<1> 2.72
Window area on outer wall(m2)	2.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0										Inner Wall	<1> 2.62
Non-conditioned inner wall length(m)	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0										Roof(without ceiling board)	2.16
!Outer wall length with negative value is regarded as underground wall.											Ceiling(without ceiling board)	2.69
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat										Mezz floor(with air layer)	1.49
	800 0										Mezz floor(without air layer)	2.69
											Pilotis	3.29
Operating time zone	8:00 to 18:00										Earth floor	0.90
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18										Underground wall(depth<=2.4m)	1.56 (W/mK)
	Lighting 100 100 100 100 100 100 100 100 100 100 100										Underground wall(depth>2.4m)	0.45
	Persons 100 100 100 100 100 100 100 100 100 100 100										Safety factor	Cooling 1.10
	Equipments 100 100 100 100 100 100 100 100 100 100 100										Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 8	1	1	1	Office	10.1	2.7	3	Summer 81.0/Winter ----

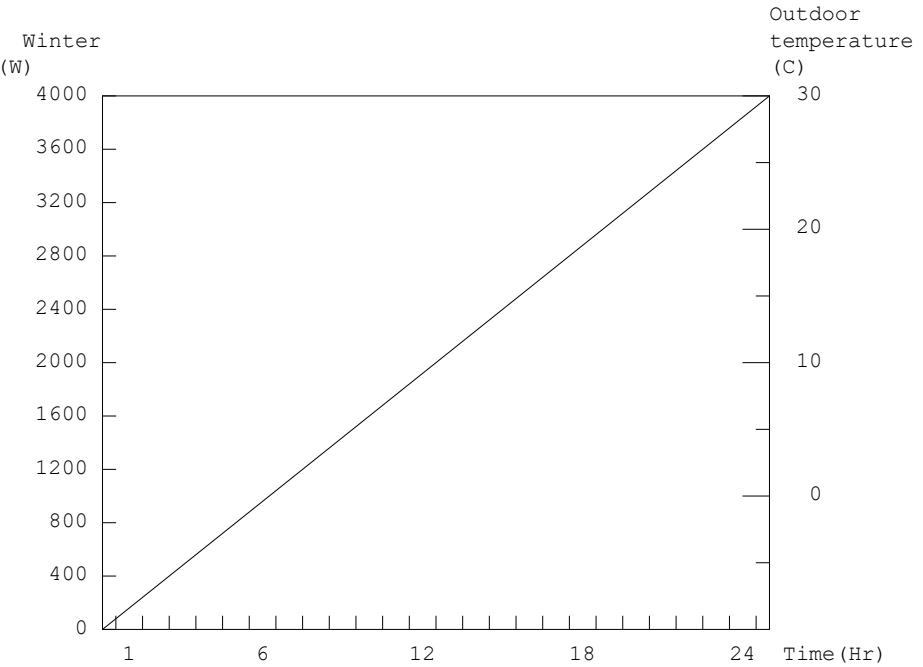
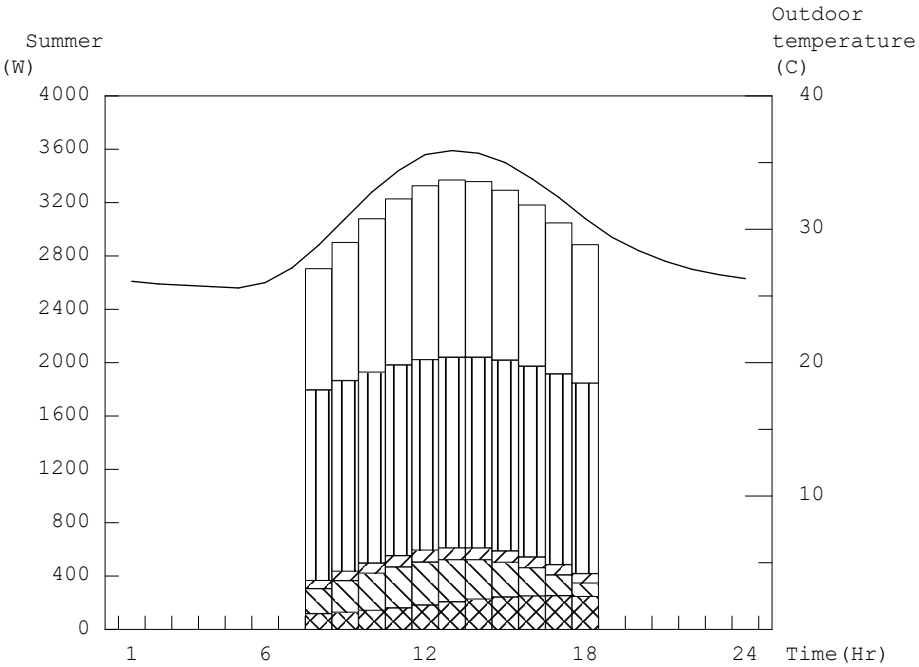
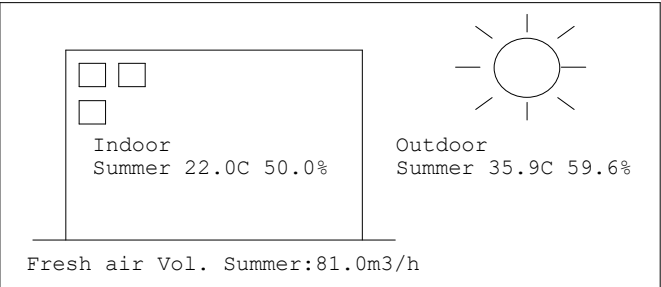
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	50	0	0	69	187	12	49	168	228	234	800	0	1520	277	909	2706 (2327)
9	30.8	71.4	60	0	0	69	237	16	54	168	228	234	800	0	1584	282	1037	2903 (2497)
10	32.8	66.5	73	0	0	69	279	19	58	168	228	234	800	0	1642	286	1151	3079 (2648)
11	34.4	63.0	92	0	0	69	309	22	62	168	228	234	800	0	1694	290	1245	3229 (2777)
12	35.6	60.0	115	0	0	69	322	24	63	168	228	234	800	0	1732	291	1305	3328 (2862)
*13	35.9	59.6	138	0	0	69	316	25	64	168	228	234	800	0	1750	292	1329	3371 (2899)
14	35.7	60.0	159	0	0	69	295	25	64	168	228	234	800	0	1750	292	1316	3358 (2888)
15	35.0	61.5	175	0	0	69	259	23	63	168	228	234	800	0	1728	291	1275	3294 (2833)
16	33.8	64.3	183	0	0	69	211	21	60	168	228	234	800	0	1686	288	1210	3184 (2738)
17	32.4	67.7	185	0	0	69	155	19	58	168	228	234	800	0	1630	286	1133	3049 (2622)
18	30.8	71.4	178	0	0	69	101	16	54	168	228	234	800	0	1566	282	1037	2885 (2481)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 8	1	1	1	Office	10.1	2.7	3



[Detail]																			
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Fresh air	Total heat load	Selected heat load			
							SH	LH	SH	LH		SH	LH						
Summer	13	138	0	0	69	316	25	64	168	228	234	800	0	1329	3371	3708			
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----			

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	4	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 9	1	1	1	Office	19.7	2.7	4	Summer 108.0/Winter ----

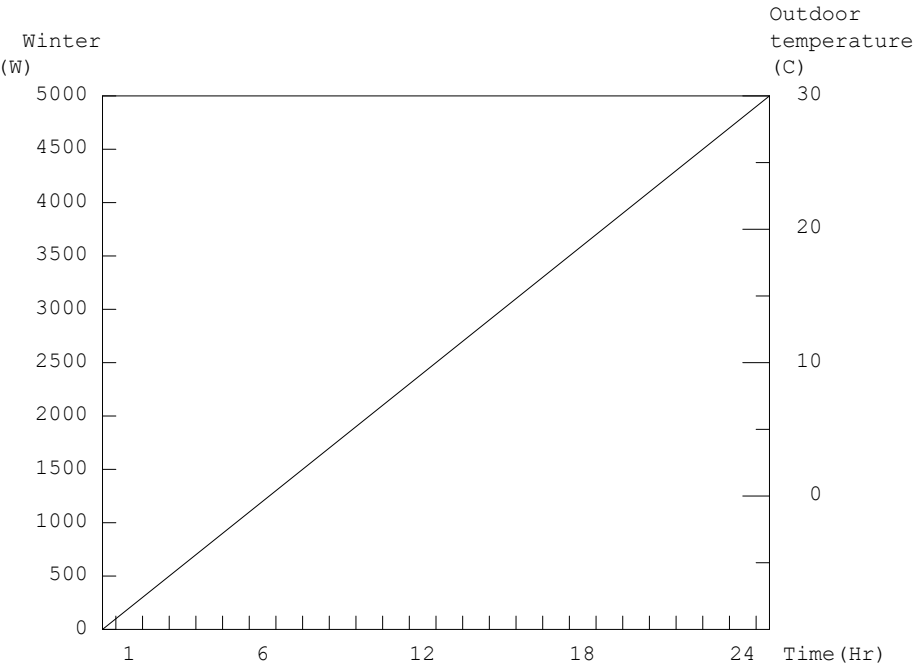
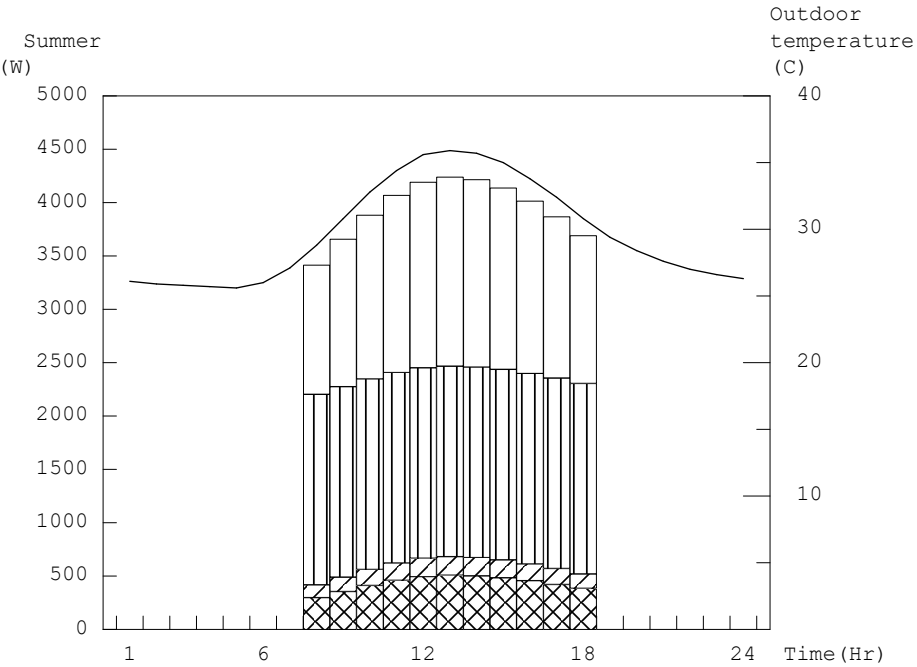
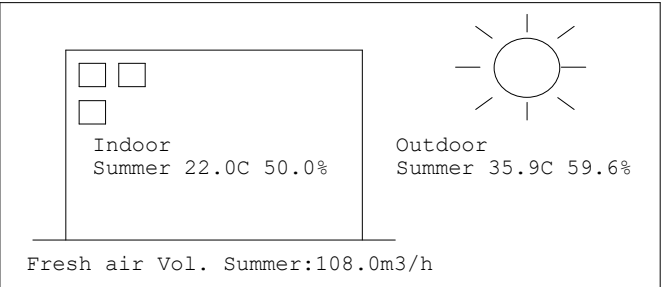
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	46	0	118	135	0	24	95	224	304	457	800	0	1804	399	1211	3414 (2936)
9	30.8	71.4	68	0	152	135	0	31	105	224	304	457	800	0	1867	409	1383	3659 (3147)
10	32.8	66.5	91	0	187	135	0	38	113	224	304	457	800	0	1932	417	1534	3883 (3339)
11	34.4	63.0	111	0	214	135	0	44	120	224	304	457	800	0	1985	424	1661	4070 (3500)
12	35.6	60.0	126	0	234	135	0	48	124	224	304	457	800	0	2024	428	1740	4192 (3605)
*13	35.9	59.6	133	0	240	135	0	49	126	224	304	457	800	0	2038	430	1771	4239 (3646)
14	35.7	60.0	131	0	236	135	0	48	125	224	304	457	800	0	2031	429	1755	4215 (3625)
15	35.0	61.5	126	0	224	135	0	46	122	224	304	457	800	0	2012	426	1701	4139 (3560)
16	33.8	64.3	118	0	204	135	0	41	118	224	304	457	800	0	1979	422	1614	4015 (3453)
17	32.4	67.7	109	0	179	135	0	37	112	224	304	457	800	0	1941	416	1511	3868 (3326)
18	30.8	71.4	99	0	152	135	0	31	105	224	304	457	800	0	1898	409	1383	3690 (3173)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 9	1	1	1	Office	19.7	2.7	4



[Detail]																
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	133	0	240	135	0	49	126	224	304	457	800	0	1771	4239	4663
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0	
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0	
City	Maceio/Brazil										Design room temperature in winter(CDB)	----	
											Design room humidity in winter(%RH)	----	
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)	
Max. fresh air temp. in summer(C)	35.9										Summer	27.0	
Min. fresh air temp. in winter(C)	----										Winter	----	
Room name	CARTÓR. SECRET. 9										infiltration ventilation(Times/h)	Summer 0.20	
Floor No	1										Winter	----	
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
No of rooms	1										Lighting:--- Persons:--- Equipments:---		
Usage of Room	Office										Window type <1>	Clear 5mm	
Ceiling board	No										Blind type	Neutral tints	
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97	
Floor area(m2)	15.5										Lighting Fluorescent lamp(W/m2)	20.0	
Ceiling height(m)	2.7										Incandescent lamp(W/m2)	0.0	
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass										No of persons	3	
	0.0 0.0 0.0 0.0										Depth of underground wall(m)	0.0	
											!Underground wall is valid only when outer wall is negative value.		
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis										Humidifying method	-----	
	15.5 0.0 0.0										Overall heat transfer coefficient (W/m2K)		
Outer wall length(m) <1>	N E S W NE SE SW NW Shade										Outer wall <1>	2.72	
Window area on outer wall(m2)	0.0 0.0 0.0 8.9 0.0 0.0 0.0 0.0 0.0										Inner Wall <1>	2.62	
Non-conditioned inner wall length(m)	3.5 0.0 2.1 0.0 0.0 0.0 0.0 0.0										Roof(without ceiling board)	2.16	
!Outer wall length with negative value is regarded as underground wall.												Ceiling(without ceiling board)	2.69
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat										Mezz floor(with air layer)	1.49	
	800 0										Mezz floor(without air layer)	2.69	
											Pilotis	3.29	
Operating time zone	8:00 to 18:00										Earth floor	0.90	
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18										Underground wall(depth<=2.4m)	1.56 (W/mK)	
	Lighting 100 100 100 100 100 100 100 100 100 100 100										Underground wall(depth>2.4m)	0.45	
	Persons 100 100 100 100 100 100 100 100 100 100 100										Safety factor Cooling	1.10	
	Equipments 100 100 100 100 100 100 100 100 100 100 100										Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 9	1	1	1	Office	15.5	2.7	3	Summer 81.0/Winter ----

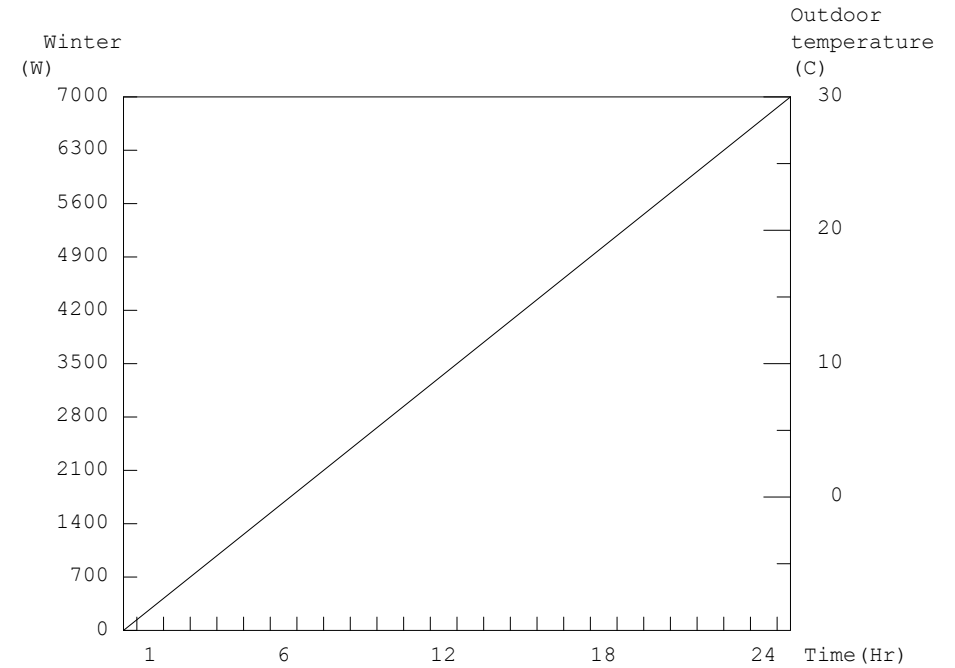
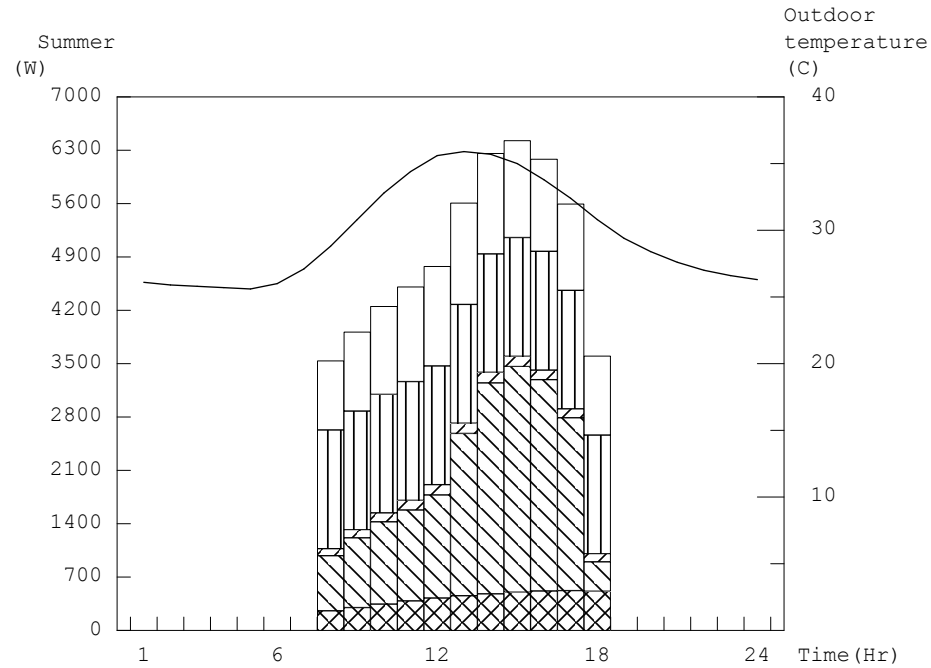
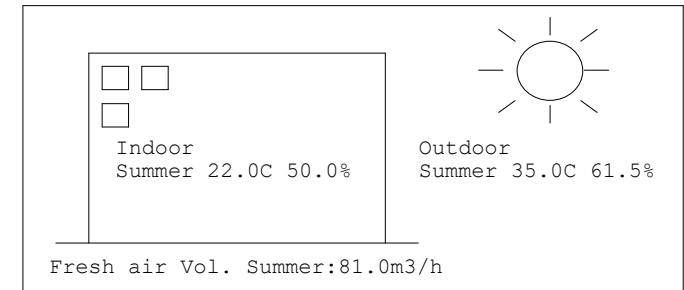
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	46	0	107	106	722	19	75	168	228	360	800	0	2328	303	909	3540 (3044)
9	30.8	71.4	55	0	139	106	916	24	83	168	228	360	800	0	2568	311	1037	3916 (3368)
10	32.8	66.5	68	0	171	106	1080	30	89	168	228	360	800	0	2783	317	1151	4251 (3656)
11	34.4	63.0	85	0	197	106	1193	34	94	168	228	360	800	0	2943	322	1245	4510 (3879)
12	35.6	60.0	106	0	216	106	1353	38	97	168	228	360	800	0	3147	325	1305	4777 (4108)
13	35.9	59.6	130	0	221	106	2128	38	99	168	228	360	800	0	3951	327	1329	5607 (4822)
14	35.7	60.0	159	0	217	106	2769	38	98	168	228	360	800	0	4617	326	1316	6259 (5383)
*15	35.0	61.5	193	0	206	106	2961	36	96	168	228	360	800	0	4830	324	1275	6429 (5529)
16	33.8	64.3	225	0	187	106	2775	33	92	168	228	360	800	0	4654	320	1210	6184 (5318)
17	32.4	67.7	253	0	165	106	2266	29	88	168	228	360	800	0	4147	316	1133	5596 (4813)
18	30.8	71.4	268	0	139	106	389	24	83	168	228	360	800	0	2254	311	1037	3602 (3098)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 9	1	1	1	Office	15.5	2.7	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	15	193	0	206	106	2961	36	96	168	228	360	800	0	1275	6429	7072
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS									Design room temperature in summer(CDB)	22.0	
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL									Design room humidity in summer(%RH)	50.0	
City	Maceio/Brazil									Design room temperature in winter(CDB)	----	
										Design room humidity in winter(%RH)	----	
Outer wall assembly	Normal Concrete									Fresh air intake	Air volume(m3/h person)	
Max. fresh air temp. in summer(C)	35.9										Summer	27.0
Min. fresh air temp. in winter(C)	----										Winter	----
Room name	SALA DELEGADO 9									infiltration ventilation(Times/h)	Summer 0.20	
Floor No	1										Winter	----
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1										Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office										Window type <1>	Clear 5mm
Ceiling board	No										Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97
Floor area(m2)	12.4											
Ceiling height(m)	2.7											
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof 0.0, Inclined roof 0.0, Window glass ceiling area(m2) 0.0											
Non-air-conditioned floor area(m2)	Earth floor 12.4, with air layer, Without air layer, Pilotis 0.0											
Outer wall length(m) <1>	N 0.0, E 0.0, S 0.0, W 0.0, NE 0.0, SE 0.0, SW 0.0, NW 0.0, Shade 0.0										No of persons	3
Window area on outer wall(m2) <1>	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0										Depth of underground wall(m)	0.0
Non-conditioned inner wall length(m) <1>	3.4, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0										!Underground wall is valid only when outer wall is negative value.	
!Outer wall length with negative value is regarded as underground wall.												
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800 0									Humidifying method	-----	
Operating time zone	8:00 to 18:00									Overall heat transfer coefficient	(W/m2K)	
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18										Outer wall <1>	2.72
	Lighting 100 100 100 100 100 100 100 100 100 100 100										Inner Wall <1>	2.62
	Persons 100 100 100 100 100 100 100 100 100 100 100										Roof(without ceiling board)	2.16
	Equipments 100 100 100 100 100 100 100 100 100 100 100										Ceiling(without ceiling board)	2.69
											Mezz floor(with air layer)	1.49
											Mezz floor(without air layer)	2.69
											Pilotis	3.29
											Earth floor	0.90
											Underground wall(depth<=2.4m)	1.56 (W/mK)
											Underground wall(depth>2.4m)	0.45
											Safety factor	Cooling 1.10
											Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 9	1	1	1	Office	12.4	2.7	3	Summer 81.0/Winter ----

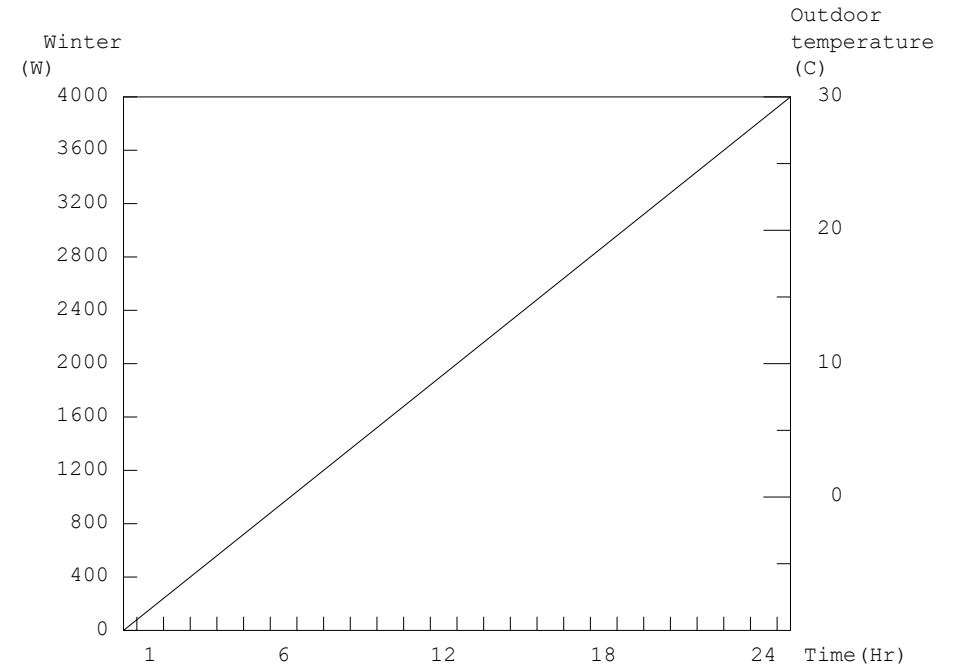
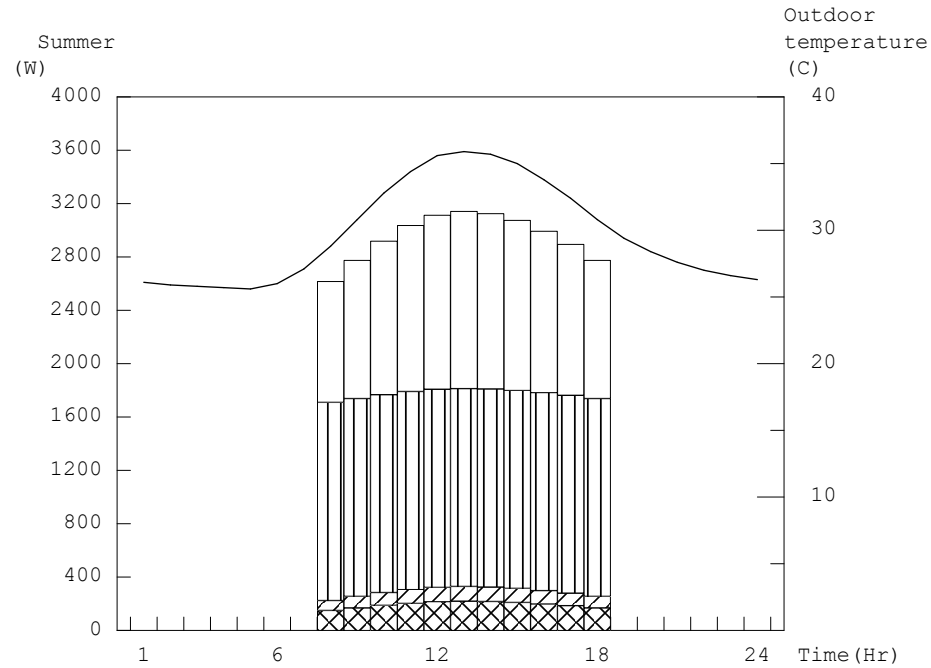
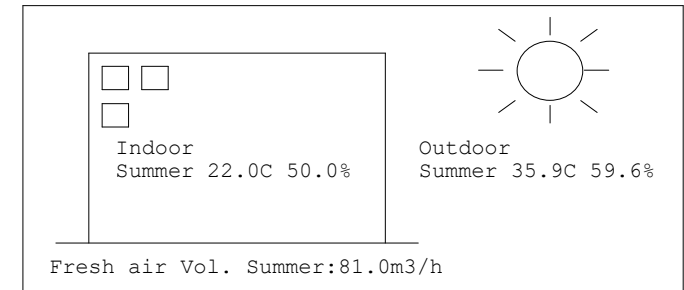
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	65	85	0	15	60	168	228	288	800	0	1421	288	909	2618 (2251)
9	30.8	71.4	0	0	85	85	0	19	66	168	228	288	800	0	1445	294	1037	2776 (2387)
10	32.8	66.5	0	0	104	85	0	24	71	168	228	288	800	0	1469	299	1151	2919 (2510)
11	34.4	63.0	0	0	119	85	0	27	76	168	228	288	800	0	1487	304	1245	3036 (2611)
12	35.6	60.0	0	0	131	85	0	30	78	168	228	288	800	0	1502	306	1305	3113 (2677)
*13	35.9	59.6	0	0	134	85	0	31	79	168	228	288	800	0	1506	307	1329	3142 (2702)
14	35.7	60.0	0	0	132	85	0	30	79	168	228	288	800	0	1503	307	1316	3126 (2688)
15	35.0	61.5	0	0	125	85	0	29	77	168	228	288	800	0	1495	305	1275	3075 (2645)
16	33.8	64.3	0	0	114	85	0	26	74	168	228	288	800	0	1481	302	1210	2993 (2574)
17	32.4	67.7	0	0	100	85	0	23	71	168	228	288	800	0	1464	299	1133	2896 (2491)
18	30.8	71.4	0	0	85	85	0	19	66	168	228	288	800	0	1445	294	1037	2776 (2387)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 9	1	1	1	Office	12.4	2.7	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	134	85	0	31	79	168	228	288	800	0	1329	3142	3456
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0	
Design room humidity in summer(%RH)	50.0	
Design room temperature in winter(CDB)	----	
Design room humidity in winter(%RH)	----	
Fresh air intake	Air volume(m3/h person)	
	Summer 27.0	
	Winter ----	
infiltration ventilation(Times/h)	Summer 0.20	
	Winter ----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
	Lighting:--- Persons:--- Equipments:---	
Window type <1>	Clear 5mm	
Blind type	Neutral tints	
Shading factor/OHTC	0.63/4.97	
Lighting Fluorescent lamp(W/m2)	20.0	
Incandescent lamp(W/m2)	0.0	
No of persons	4	
Depth of underground wall(m)	0.0	
!Underground wall is valid only when outer wall is negative value.		
Humidifying method	-----	
Overall heat transfer coefficient	(W/m2K)	Wall type
Outer wall <1>	2.72	III
Inner Wall <1>	2.62	
Roof(without ceiling board)	2.16	IV
Ceiling(without ceiling board)	2.69	
Mezz floor(with air layer)	1.49	
Mezz floor(without air layer)	2.69	
Pilotis	3.29	
Earth floor	0.90	
Underground wall(depth<=2.4m)	1.56 (W/mK)	
Underground wall(depth>2.4m)	0.45	
Safety factor Cooling	1.10	
Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTA 10	1	1	1	Office	24.2	2.7	4	Summer 108.0/Winter ----

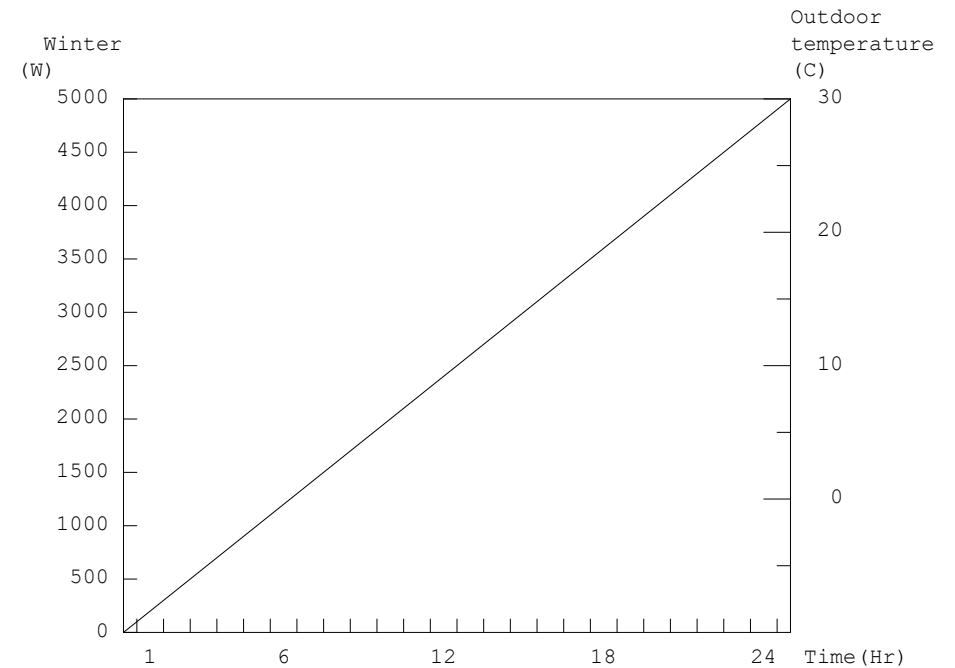
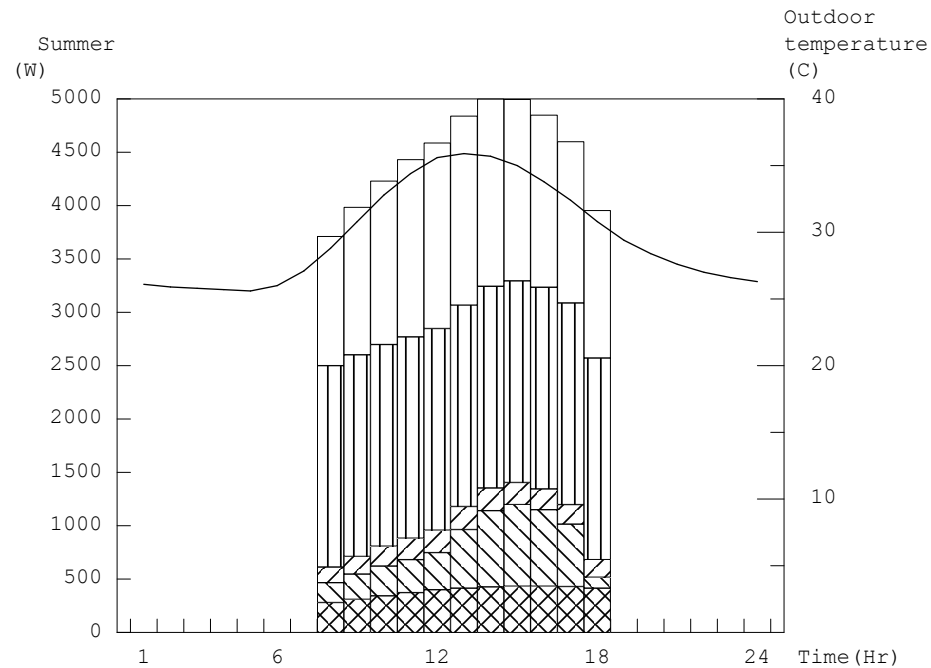
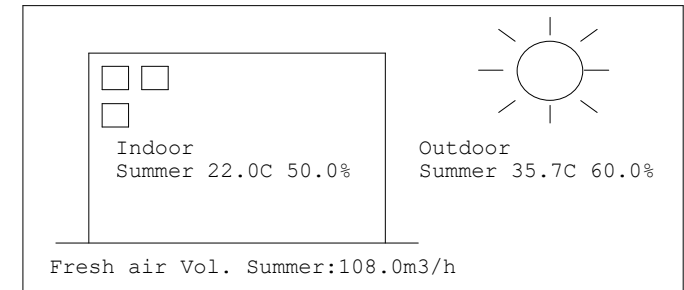
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	23	0	91	166	187	29	117	224	304	561	800	0	2081	421	1211	3713 (3193)
9	30.8	71.4	27	0	117	166	237	38	129	224	304	561	800	0	2170	433	1383	3986 (3428)
10	32.8	66.5	34	0	144	166	279	47	139	224	304	561	800	0	2255	443	1534	4232 (3640)
11	34.4	63.0	42	0	165	166	309	53	148	224	304	561	800	0	2320	452	1661	4433 (3812)
12	35.6	60.0	53	0	181	166	349	59	152	224	304	561	800	0	2393	456	1740	4589 (3947)
13	35.9	59.6	65	0	185	166	550	60	154	224	304	561	800	0	2611	458	1771	4840 (4162)
*14	35.7	60.0	79	0	182	166	716	59	153	224	304	561	800	0	2787	457	1755	4999 (4299)
15	35.0	61.5	96	0	173	166	766	56	150	224	304	561	800	0	2842	454	1701	4997 (4297)
16	33.8	64.3	112	0	157	166	717	51	144	224	304	561	800	0	2788	448	1614	4850 (4171)
17	32.4	67.7	126	0	138	166	586	45	138	224	304	561	800	0	2646	442	1511	4599 (3955)
18	30.8	71.4	133	0	117	166	101	38	129	224	304	561	800	0	2140	433	1383	3956 (3402)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTA 10	1	1	1	Office	24.2	2.7	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	14	79	0	182	166	716	59	153	224	304	561	800	0	1755	4999	5499
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		3	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume (m3/h)
CARTÓR. SECRET. 10	1	1	1	Office	16.2	2.7	3	Summer 81.0/Winter ----

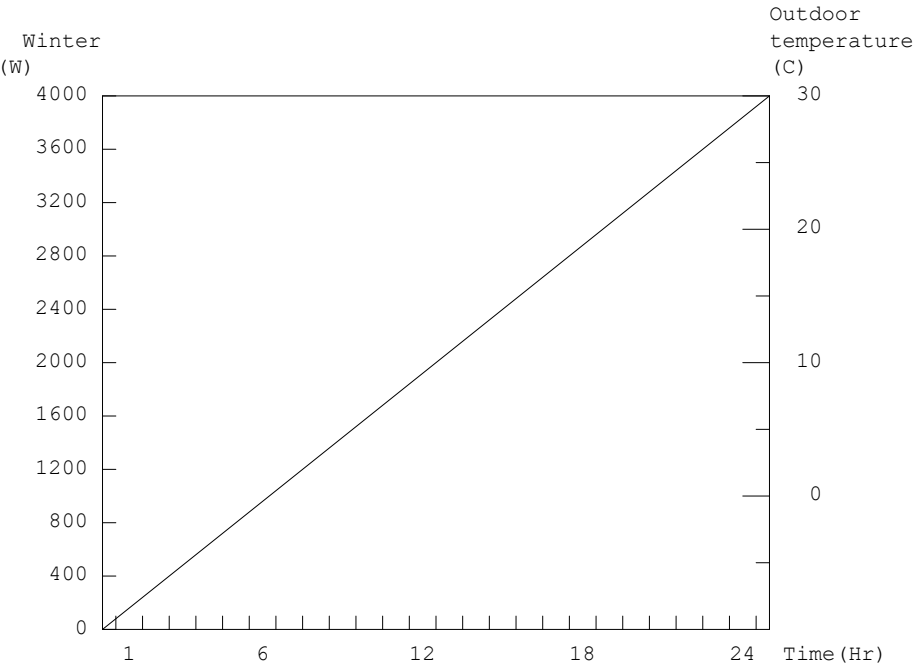
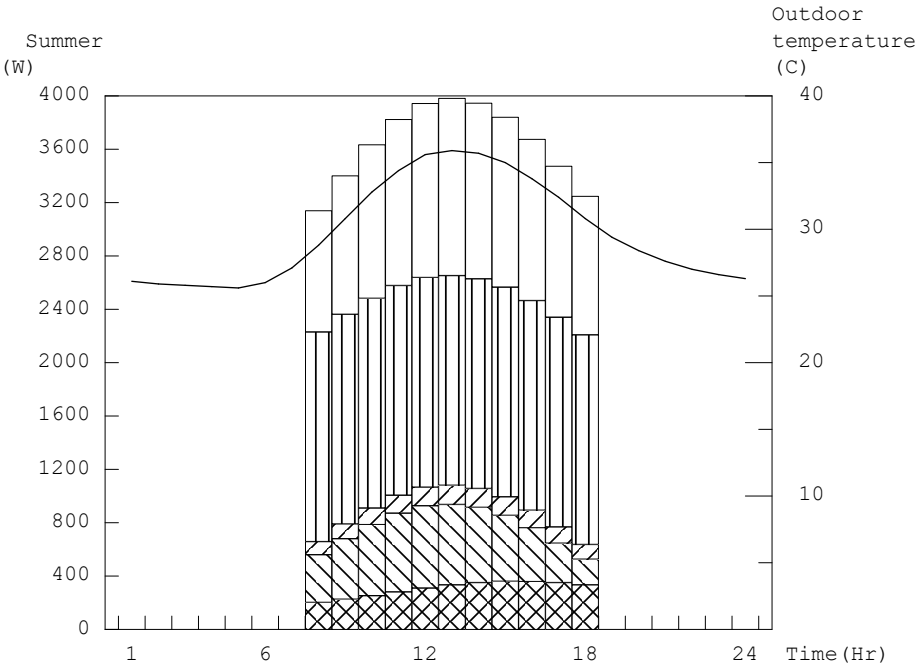
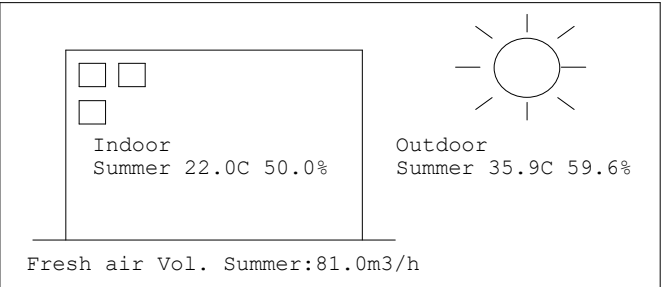
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	45	0	48	111	357	20	78	168	228	376	800	0	1925	306	909	3140 (2700)
9	30.8	71.4	54	0	62	111	453	25	87	168	228	376	800	0	2049	315	1037	3401 (2925)
10	32.8	66.5	66	0	76	111	534	31	93	168	228	376	800	0	2162	321	1151	3634 (3125)
11	34.4	63.0	83	0	88	111	590	36	99	168	228	376	800	0	2252	327	1245	3824 (3289)
12	35.6	60.0	104	0	96	111	616	39	102	168	228	376	800	0	2310	330	1305	3945 (3393)
*13	35.9	59.6	125	0	98	111	604	40	103	168	228	376	800	0	2322	331	1329	3982 (3425)
14	35.7	60.0	144	0	97	111	563	40	103	168	228	376	800	0	2299	331	1316	3946 (3394)
15	35.0	61.5	158	0	92	111	495	38	100	168	228	376	800	0	2238	328	1275	3841 (3303)
16	33.8	64.3	166	0	83	111	403	34	97	168	228	376	800	0	2141	325	1210	3676 (3161)
17	32.4	67.7	167	0	74	111	295	30	92	168	228	376	800	0	2021	320	1133	3474 (2988)
18	30.8	71.4	161	0	62	111	192	25	87	168	228	376	800	0	1895	315	1037	3247 (2792)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 10	1	1	1	Office	16.2	2.7	3



[Detail]																			
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Fresh air	Total heat load	Selected heat load			
							SH	LH	SH	LH		SH	LH						
Summer	13	125	0	98	111	604	40	103	168	228	376	800	0	1329	3982	4380			
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----			

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		3	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 10	1	1	1	Office	20.5	2.7	3	Summer 81.0/Winter ----

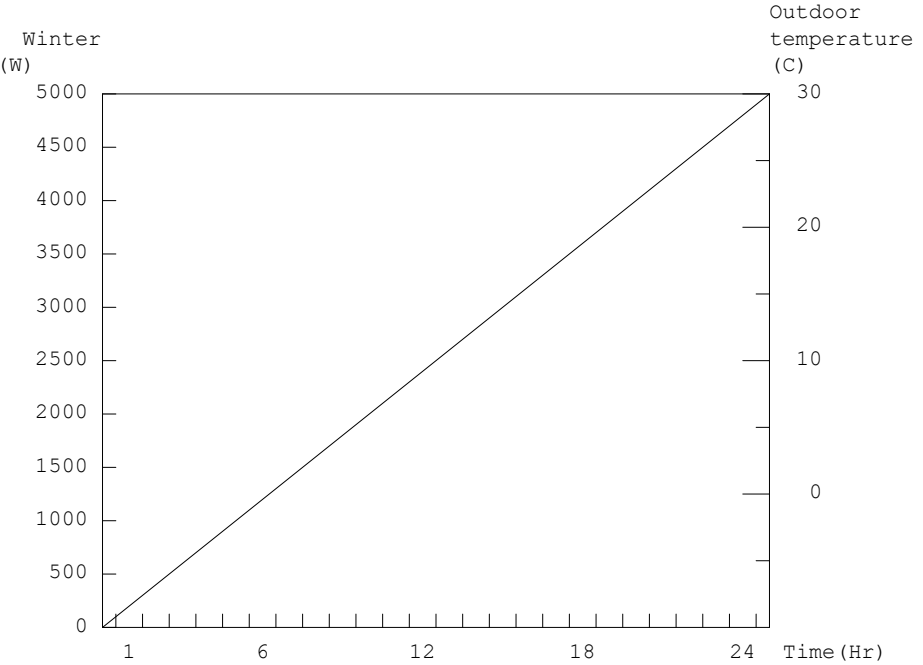
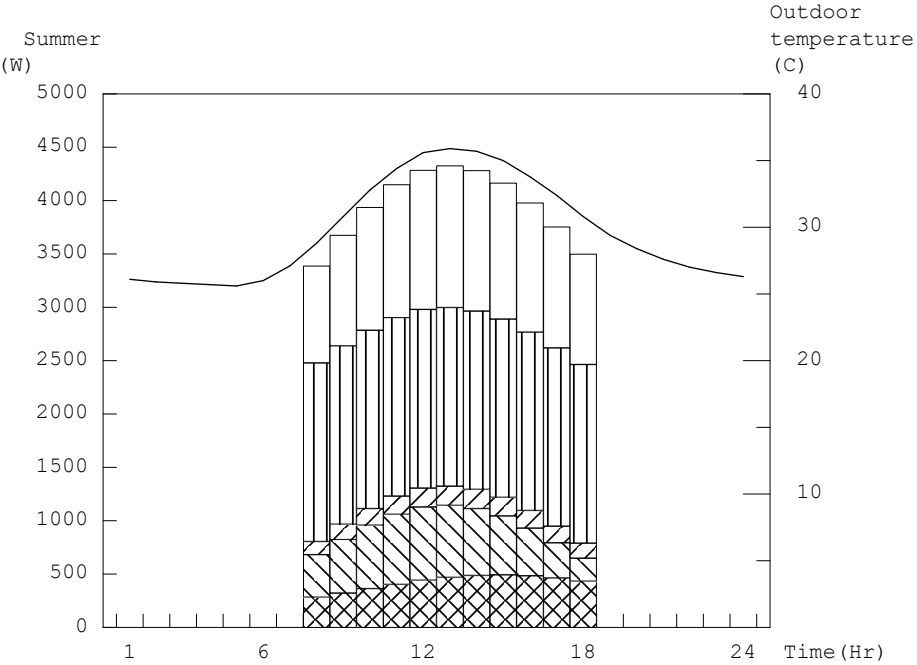
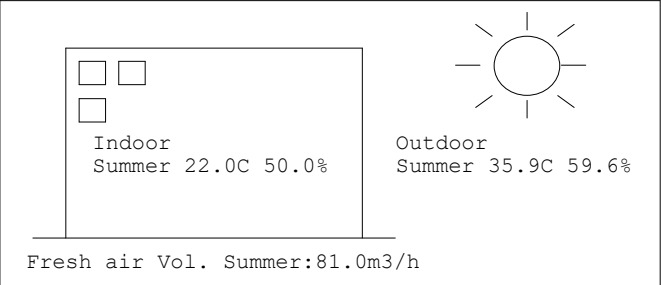
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	49	0	96	140	398	25	99	168	228	476	800	0	2152	327	909	3388 (2914)
9	30.8	71.4	58	0	124	140	504	32	110	168	228	476	800	0	2302	338	1037	3677 (3162)
10	32.8	66.5	71	0	153	140	594	39	118	168	228	476	800	0	2441	346	1151	3938 (3387)
11	34.4	63.0	89	0	176	140	657	45	125	168	228	476	800	0	2551	353	1245	4149 (3568)
12	35.6	60.0	111	0	192	140	686	50	129	168	228	476	800	0	2623	357	1305	4285 (3685)
*13	35.9	59.6	134	0	197	140	673	51	131	168	228	476	800	0	2639	359	1329	4327 (3721)
14	35.7	60.0	153	0	194	140	627	50	130	168	228	476	800	0	2608	358	1316	4282 (3683)
15	35.0	61.5	169	0	184	140	552	47	127	168	228	476	800	0	2536	355	1275	4166 (3583)
16	33.8	64.3	177	0	167	140	448	43	122	168	228	476	800	0	2419	350	1210	3979 (3422)
17	32.4	67.7	178	0	147	140	329	38	117	168	228	476	800	0	2276	345	1133	3754 (3228)
18	30.8	71.4	172	0	124	140	214	32	110	168	228	476	800	0	2126	338	1037	3501 (3011)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 10	1	1	1	Office	20.5	2.7	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	134	0	197	140	673	51	131	168	228	476	800	0	1329	4327	4760
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS										Design room temperature in summer(CDB)	22.0	
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL										Design room humidity in summer(%RH)	50.0	
City	Maceio/Brazil										Design room temperature in winter(CDB)	----	
											Design room humidity in winter(%RH)	----	
Outer wall assembly	Normal Concrete										Fresh air intake	Air volume(m3/h person)	
Max. fresh air temp. in summer(C)	35.9										Summer	27.0	
Min. fresh air temp. in winter(C)	----										Winter	----	
Room name	SALA ANALISTAS 11										infiltration ventilation(Times/h)	Summer 0.20	
Floor No	1										Winter	----	
System No	1										Heating load internal heat gain[to ratio of cooling load internal heat gain](%)		
No of rooms	1										Lighting:--- Persons:--- Equipments:---		
Usage of Room	Office										Window type <1>	Clear 5mm	
Ceiling board	No										Blind type	Neutral tints	
Method of fresh air intake	Common ventilation fan										Shading factor/OHTC	0.63/4.97	
Floor area(m2)	24.0										Lighting Fluorescent lamp(W/m2)	20.0	
Ceiling height(m)	2.7										Incandescent lamp(W/m2)	0.0	
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass										No of persons	4	
	0.0 0.0 0.0 0.0										Depth of underground wall(m)	0.0	
											!Underground wall is valid only when outer wall is negative value.		
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis										Humidifying method	-----	
	24.0 0.0 0.0 0.0										Overall heat transfer coefficient (W/m2K)		
	N E S W NE SE SW NW Shade										Outer wall <1>	2.72	
Outer wall length(m) <1>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Inner Wall <1>	2.62		
Window area on outer wall(m2) <1>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Roof(without ceiling board)	2.16		
Non-conditioned inner wall length(m) <1>	4.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Ceiling(without ceiling board)	2.69		
!Outer wall length with negative value is regarded as underground wall.												Mezz floor(with air layer)	1.49
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat										Mezz floor(without air layer)	2.69	
	800 0										Pilotis	3.29	
											Earth floor	0.90	
											Underground wall(depth<=2.4m)	1.56 (W/mK)	
											Underground wall(depth>2.4m)	0.45	
Operating time zone	8:00 to 18:00										Safety factor Cooling	1.10	
											Heating	----	
Internal heatgaing schedule(%)	Time	8	9	10	11	12	13	14	15	16	17	18	
	Lighting	100	100	100	100	100	100	100	100	100	100	100	
	Persons	100	100	100	100	100	100	100	100	100	100	100	
	Equipments	100	100	100	100	100	100	100	100	100	100	100	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA ANALISTAS 11	1	1	1	Office	24.0	2.7	4	Summer 108.0/Winter ----

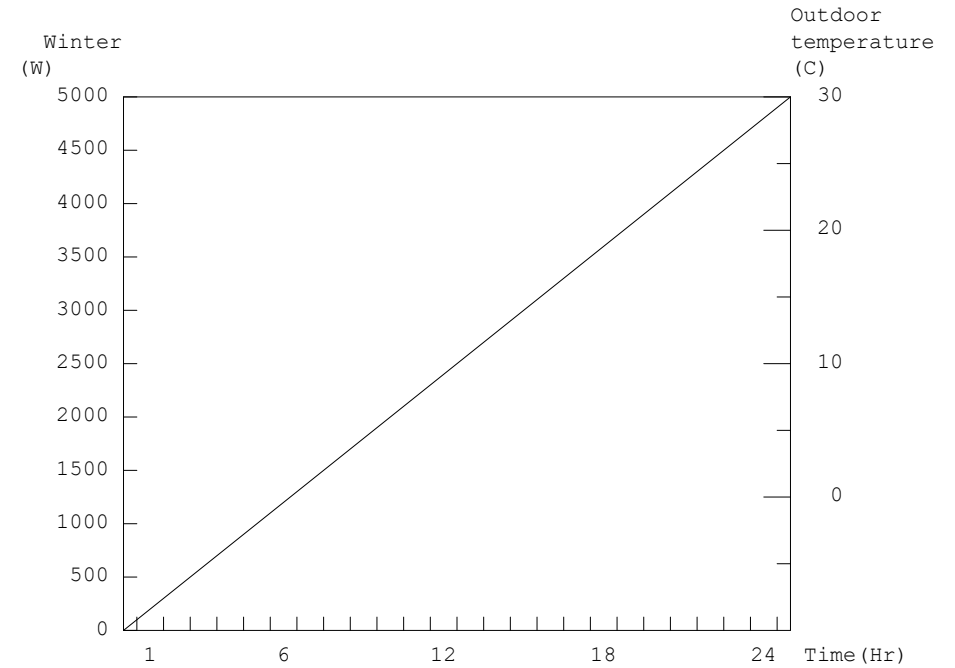
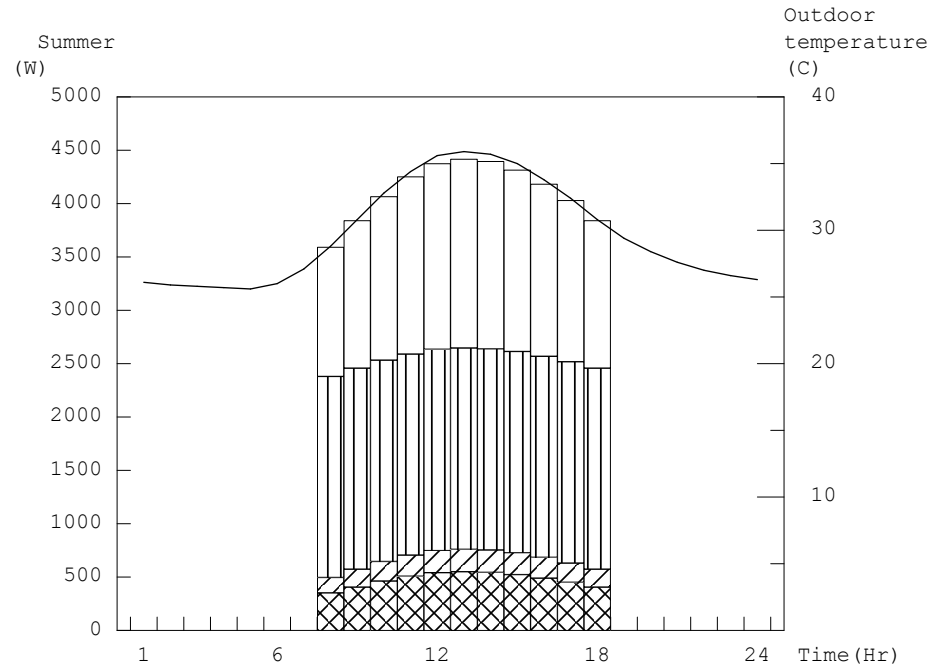
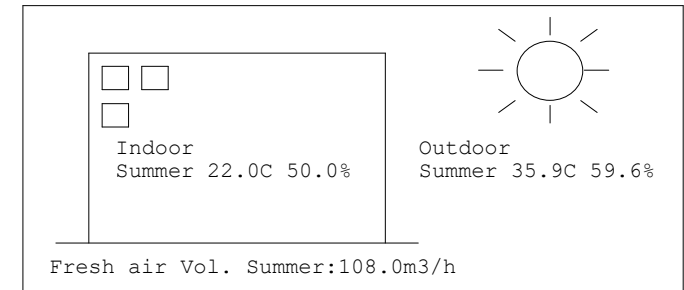
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	188	164	0	29	116	224	304	557	800	0	1962	420	1211	3593 (3090)
9	30.8	71.4	0	0	244	164	0	38	128	224	304	557	800	0	2027	432	1383	3842 (3304)
10	32.8	66.5	0	0	300	164	0	46	138	224	304	557	800	0	2091	442	1534	4067 (3498)
11	34.4	63.0	0	0	344	164	0	53	146	224	304	557	800	0	2142	450	1661	4253 (3658)
12	35.6	60.0	0	0	378	164	0	58	151	224	304	557	800	0	2181	455	1740	4376 (3763)
*13	35.9	59.6	0	0	386	164	0	59	153	224	304	557	800	0	2190	457	1771	4418 (3799)
14	35.7	60.0	0	0	380	164	0	59	152	224	304	557	800	0	2184	456	1755	4395 (3780)
15	35.0	61.5	0	0	360	164	0	56	149	224	304	557	800	0	2161	453	1701	4315 (3711)
16	33.8	64.3	0	0	328	164	0	50	143	224	304	557	800	0	2123	447	1614	4184 (3598)
17	32.4	67.7	0	0	288	164	0	44	137	224	304	557	800	0	2077	441	1511	4029 (3465)
18	30.8	71.4	0	0	244	164	0	38	128	224	304	557	800	0	2027	432	1383	3842 (3304)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA ANALISTAS 11	1	1	1	Office	24.0	2.7	4



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	386	164	0	59	153	224	304	557	800	0	1771	4418	4860
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

Project name	SUPERINTENDENCIA POLICIA FEDERAL - ALAGOAS									Design room temperature in summer(CDB)	22.0
Address	AV. WALTER ANANIAS, 705 - JARAGUA - MACEIO/AL									Design room humidity in summer(%RH)	50.0
City	Maceio/Brazil									Design room temperature in winter(CDB)	----
										Design room humidity in winter(%RH)	----
Outer wall assembly	Normal Concrete									Fresh air intake	Air volume(m3/h person)
Max. fresh air temp. in summer(C)	35.9									Summer	27.0
Min. fresh air temp. in winter(C)	----									Winter	----
Room name	CARTÓR. SECRET. 11									infiltration ventilation(Times/h)	Summer 0.20
Floor No	1									Winter	----
System No	1									Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	
No of rooms	1									Lighting:--- Persons:--- Equipments:---	
Usage of Room	Office									Window type <1>	Clear 5mm
Ceiling board	No									Blind type	Neutral tints
Method of fresh air intake	Common ventilation fan									Shading factor/OHTC	0.63/4.97
Floor area(m2)	15.1									Lighting Fluorescent lamp(W/m2)	20.0
Ceiling height(m)	2.7									Incandescent lamp(W/m2)	0.0
Roof&Non-air-conditioned ceiling area(m2)	Overhead room, Flat roof , Inclined roof , Window glass ceiling area(m2) 0.0 0.0 0.0 0.0									No of persons	3
Non-air-conditioned floor area(m2)	Earth floor , with air layer, Without air layer, Pilotis 15.1 0.0 0.0 0.0									Depth of underground wall(m)	0.0
Outer wall length(m) <1>	N E S W NE SE SW NW Shade 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									!Underground wall is valid only when outer wall is negative value.	
Window area on outer wall(m2) <1>	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0									Humidifying method	-----
Non-conditioned inner wall length(m) <1>	3.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0									Overall heat transfer coefficient (W/m2K)	Outer wall <1> 2.72
!Outer wall length with negative value is regarded as underground wall.										Inner Wall <1>	2.62
Cooling load heat gain from equipments(W)	Sensible heat, Latent heat 800 0									Roof(without ceiling board)	2.16
Operating time zone	8:00 to 18:00									Ceiling(without ceiling board)	2.69
Internal heatgaing schedule(%)	Time 8 9 10 11 12 13 14 15 16 17 18									Mezz floor(with air layer)	1.49
	Lighting 100 100 100 100 100 100 100 100 100 100 100									Mezz floor(without air layer)	2.69
	Persons 100 100 100 100 100 100 100 100 100 100 100									Pilotis	3.29
	Equipments 100 100 100 100 100 100 100 100 100 100 100									Earth floor	0.90
										Underground wall(depth<=2.4m)	1.56 (W/mK)
										Underground wall(depth>2.4m)	0.45
										Safety factor	Cooling 1.10
										Heating	----

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
CARTÓR. SECRET. 11	1	1	1	Office	15.1	2.7	3	Summer 81.0/Winter ----

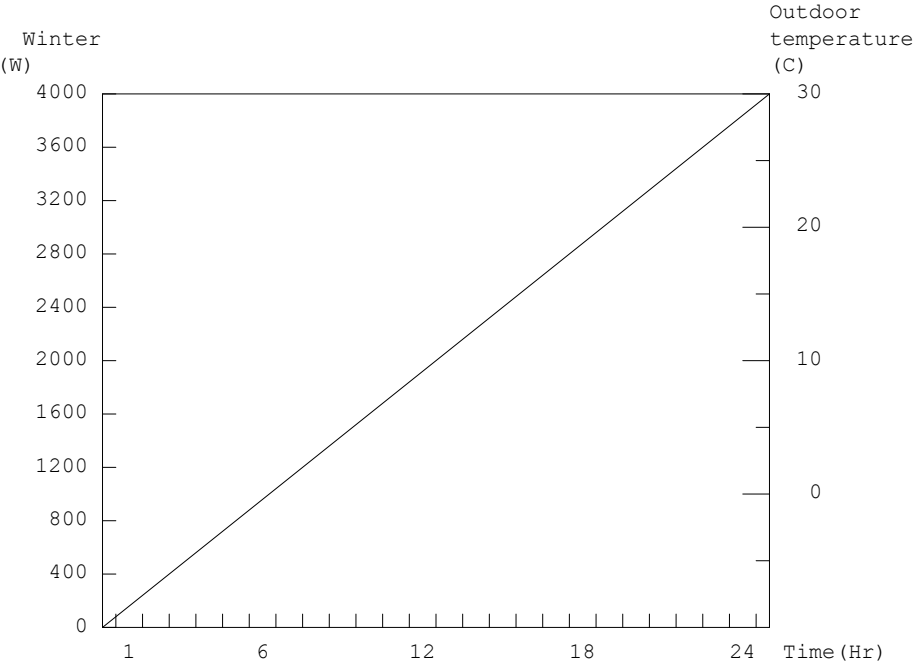
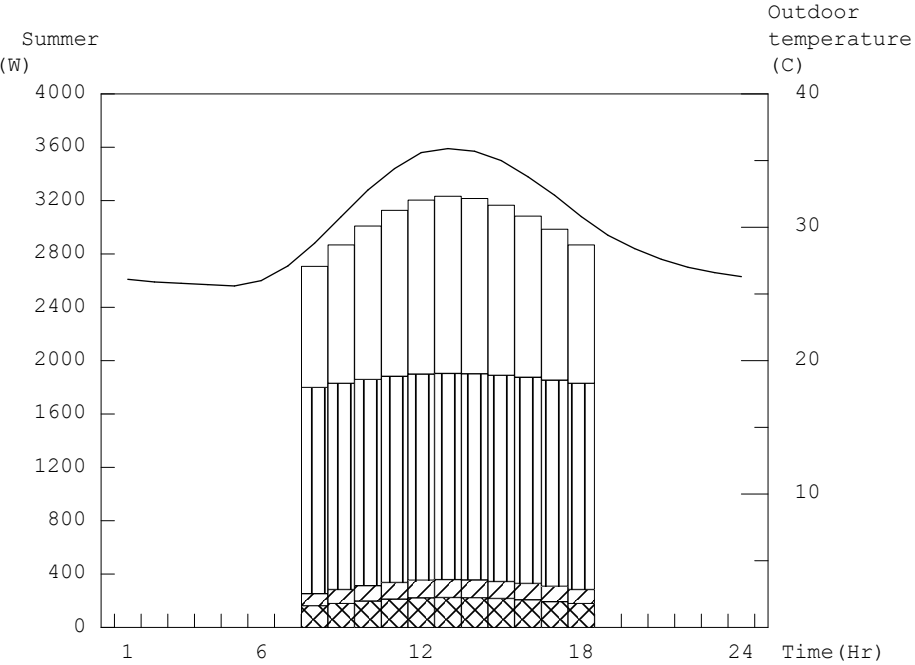
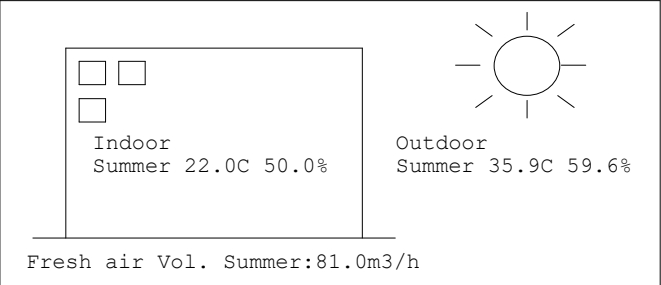
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	60	103	0	18	73	168	228	350	800	0	1499	301	909	2709 (2330)
9	30.8	71.4	0	0	77	103	0	24	81	168	228	350	800	0	1522	309	1037	2868 (2466)
10	32.8	66.5	0	0	95	103	0	29	87	168	228	350	800	0	1545	315	1151	3011 (2589)
11	34.4	63.0	0	0	109	103	0	33	92	168	228	350	800	0	1563	320	1245	3128 (2690)
12	35.6	60.0	0	0	119	103	0	37	95	168	228	350	800	0	1577	323	1305	3205 (2756)
*13	35.9	59.6	0	0	122	103	0	37	96	168	228	350	800	0	1580	324	1329	3233 (2780)
14	35.7	60.0	0	0	120	103	0	37	96	168	228	350	800	0	1578	324	1316	3218 (2767)
15	35.0	61.5	0	0	114	103	0	35	93	168	228	350	800	0	1570	321	1275	3166 (2723)
16	33.8	64.3	0	0	104	103	0	32	90	168	228	350	800	0	1557	318	1210	3085 (2653)
17	32.4	67.7	0	0	91	103	0	28	86	168	228	350	800	0	1540	314	1133	2987 (2569)
18	30.8	71.4	0	0	77	103	0	24	81	168	228	350	800	0	1522	309	1037	2868 (2466)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
CARTÓR. SECRET. 11	1	1	1	Office	15.1	2.7	3



[Detail]

(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	122	103	0	37	96	168	228	350	800	0	1329	3233	3556
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat

Room data(Input data)

[illegible]

Design room temperature in summer(CDB)	22.0		
Design room humidity in summer(%RH)	50.0		
Design room temperature in winter(CDB)	----		
Design room humidity in winter(%RH)	----		
Fresh air intake	Air volume(m3/h person)		
	Summer	27.0	
	Winter	----	
infiltration ventilation(Times/h)	Summer	0.20	
	Winter	----	
Heating load internal heat gain[to ratio of cooling load internal heat gain](%)	Lighting:---	Persons:--- Equipments:---	
Window type <1>	Clear 5mm		
Blind type	Neutral tints		
Shading factor/OHTC	0.63/4.97		
Lighting	Fluorescent lamp(W/m2)	20.0	
	Incandescent lamp(W/m2)	0.0	
No of persons		3	
Depth of underground wall(m)		0.0	
!Underground wall is valid only when outer wall is negative value.			
Humidifying method		-----	
Overall heat transfer coefficient	(W/m2K)	Wall type	
Outer wall	<1>	2.72	III
Inner Wall	<1>	2.62	
Roof(without ceiling board)		2.16	IV
Ceiling(without ceiling board)		2.69	
Mezz floor(with air layer)		1.49	
Mezz floor(without air layer)		2.69	
Pilotis		3.29	
Earth floor		0.90	
Underground wall(depth<=2.4m)		1.56	(W/mK)
Underground wall(depth>2.4m)		0.45	
Safety factor	Cooling	1.10	
	Heating	----	

OHTC : Overall heat transfer coefficient

Table of room heat load

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height (m)	No of person	F/A volume(m3/h)
SALA DELEGADO 11	1	1	1	Office	15.2	2.7	3	Summer 81.0/Winter ----

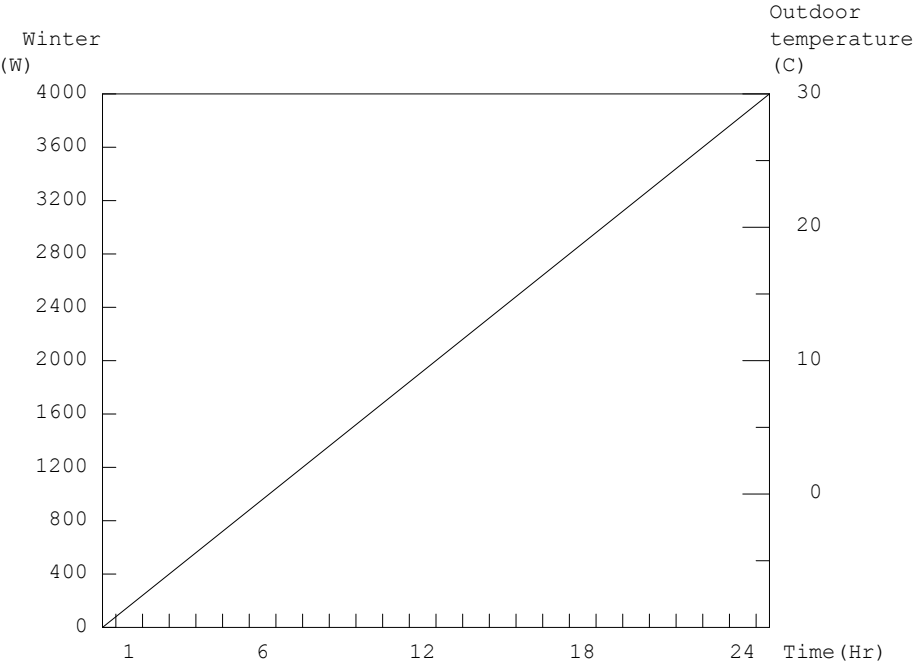
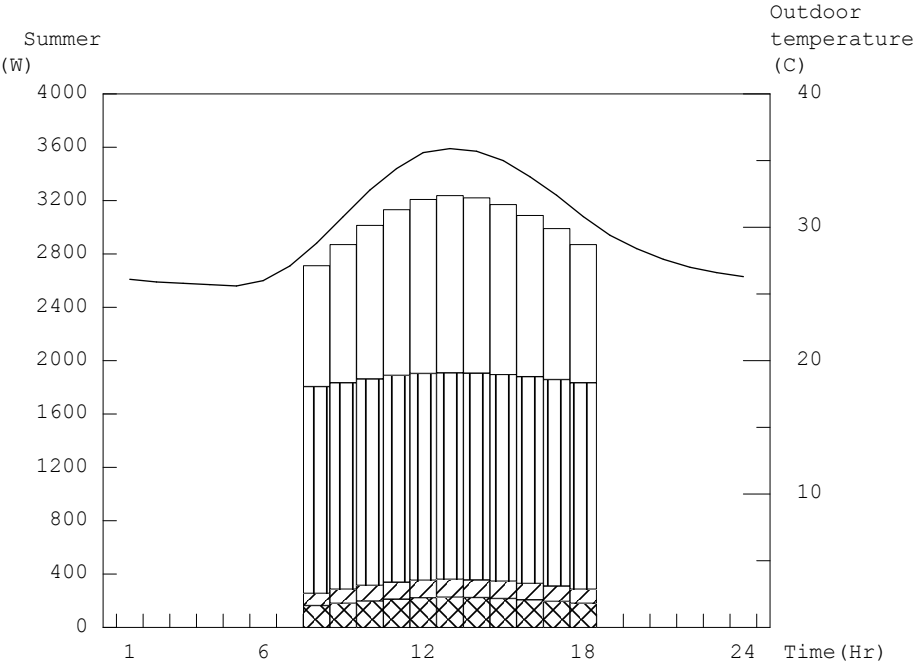
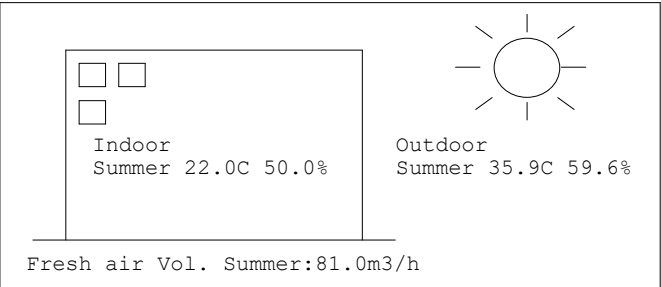
[Cooling load] Condition of indoor design temprature & humidity: 22.0(CDB) 50.0(%RH) [W] (kcal/h)

Time	F/A cond.		Outer Wall	Roof & Ceiling	Inner Wall	Floor	Window	Infiltration		Human body		Light -ing	Equipments		Indoor heat		Fresh air	Total heat load
	CDB	%RH						SH	LH	SH	LH		SH	LH	SH	LH		
8	28.8	75.8	0	0	60	104	0	18	74	168	228	353	800	0	1503	302	909	2714 (2334)
9	30.8	71.4	0	0	77	104	0	24	81	168	228	353	800	0	1526	309	1037	2872 (2470)
10	32.8	66.5	0	0	95	104	0	29	87	168	228	353	800	0	1549	315	1151	3015 (2593)
11	34.4	63.0	0	0	109	104	0	34	93	168	228	353	800	0	1568	321	1245	3134 (2695)
12	35.6	60.0	0	0	119	104	0	37	95	168	228	353	800	0	1581	323	1305	3209 (2760)
*13	35.9	59.6	0	0	122	104	0	38	97	168	228	353	800	0	1585	325	1329	3239 (2786)
14	35.7	60.0	0	0	120	104	0	37	96	168	228	353	800	0	1582	324	1316	3222 (2771)
15	35.0	61.5	0	0	114	104	0	35	94	168	228	353	800	0	1574	322	1275	3171 (2727)
16	33.8	64.3	0	0	104	104	0	32	91	168	228	353	800	0	1561	319	1210	3090 (2657)
17	32.4	67.7	0	0	91	104	0	28	87	168	228	353	800	0	1544	315	1133	2992 (2573)
18	30.8	71.4	0	0	77	104	0	24	81	168	228	353	800	0	1526	309	1037	2872 (2470)

F/A : Fresh air
SH : Sensible heat
LH : Latent heat

Heat load graph

Room name	Floor	System	Rooms	Usage	Fl area(m2)	Height(m)	No of person
SALA DELEGADO 11	1	1	1	Office	15.2	2.7	3



[Detail]																
(W)	Time	Outer wall	Roof & Ceiling	Inner wall	Floor	Window	Infiltration		Human body		Light-ing	Equipments		Fresh air	Total heat load	Selected heat load
							SH	LH	SH	LH		SH	LH			
Summer	13	0	0	122	104	0	38	97	168	228	353	800	0	1329	3239	3563
Winter	--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

SH : Sensible heat
LH : Latent heat