



**Ministerio Público Fiscal de la Ciudad de Buenos Aires**  
**Fiscalía General**  
**Departamento de Infraestructura y Apoyo Operativo**

**Air System Design Load Summary for Zona 5**

Project Name: Av. Cabildo 3067, 4° piso  
Prepared by: SS

04/05/2011  
11:09

|                               | DESIGN COOLING                                                 |              |            | DESIGN HEATING                                                 |              |            |
|-------------------------------|----------------------------------------------------------------|--------------|------------|----------------------------------------------------------------|--------------|------------|
|                               | COOLING DATA AT Dec 1600                                       |              |            | HEATING DATA AT DES HTG                                        |              |            |
|                               | COOLING OA DB / WB 34.0 °C / 23.7 °C                           |              |            | HEATING OA DB / WB -0.6 °C / -3.2 °C                           |              |            |
| ZONE LOADS                    | Details                                                        | Sensible (W) | Latent (W) | Details                                                        | Sensible (W) | Latent (W) |
| Window & Skylight Solar Loads | 5 m²                                                           | 909          | -          | 5 m²                                                           | -            | -          |
| Wall Transmission             | 7 m²                                                           | 127          | -          | 7 m²                                                           | 231          | -          |
| Roof Transmission             | 70 m²                                                          | 941          | -          | 70 m²                                                          | 869          | -          |
| Window Transmission           | 5 m²                                                           | 191          | -          | 5 m²                                                           | 505          | -          |
| Skylight Transmission         | 0 m²                                                           | 0            | -          | 0 m²                                                           | 0            | -          |
| Door Loads                    | 0 m²                                                           | 0            | -          | 0 m²                                                           | 0            | -          |
| Floor Transmission            | 70 m²                                                          | 0            | -          | 70 m²                                                          | 0            | -          |
| Partitions                    | 90 m²                                                          | 0            | -          | 90 m²                                                          | 0            | -          |
| Ceiling                       | 0 m²                                                           | 0            | -          | 0 m²                                                           | 0            | -          |
| Overhead Lighting             | 1890 W                                                         | 1769         | -          | 0                                                              | 0            | -          |
| Task Lighting                 | 0 W                                                            | 0            | -          | 0                                                              | 0            | -          |
| Electric Equipment            | 5950 W                                                         | 5779         | -          | 0                                                              | 0            | -          |
| People                        | 18                                                             | 1156         | 1051       | 0                                                              | 0            | 0          |
| Infiltration                  | -                                                              | 0            | 0          | -                                                              | 0            | 0          |
| Miscellaneous                 | -                                                              | 0            | 0          | -                                                              | 0            | 0          |
| Safety Factor                 | 5% / 5%                                                        | 544          | 53         | 5%                                                             | 80           | 0          |
| >> Total Zone Loads           | -                                                              | 11416        | 1104       | -                                                              | 1685         | 0          |
| Zone Conditioning             | -                                                              | 11022        | 1104       | -                                                              | 1701         | 0          |
| Plenum Wall Load              | 0%                                                             | 0            | -          | 0                                                              | 0            | -          |
| Plenum Roof Load              | 0%                                                             | 0            | -          | 0                                                              | 0            | -          |
| Plenum Lighting Load          | 0%                                                             | 0            | -          | 0                                                              | 0            | -          |
| Return Fan Load               | 992 L/s                                                        | 0            | -          | 992 L/s                                                        | 0            | -          |
| Ventilation Load              | 124 L/s                                                        | 1361         | 1279       | 124 L/s                                                        | 3245         | 0          |
| Supply Fan Load               | 1067 L/s                                                       | 20           | -          | 1067 L/s                                                       | -20          | -          |
| Space Fan Coil Fans           | -                                                              | 0            | -          | -                                                              | 0            | -          |
| Duct Heat Gain / Loss         | 5%                                                             | 571          | -          | 5%                                                             | 84           | -          |
| >> Total System Loads         | -                                                              | 12973        | 2383       | -                                                              | 5010         | 0          |
| Central Cooling Coil          | -                                                              | 12973        | 2384       | -                                                              | 0            | 0          |
| Central Heating Coil          | -                                                              | 0            | -          | -                                                              | 5010         | -          |
| >> Total Conditioning         | -                                                              | 12973        | 2384       | -                                                              | 5010         | 0          |
| Key:                          | Positive values are clg loads<br>Negative values are htg loads |              |            | Positive values are htg loads<br>Negative values are clg loads |              |            |



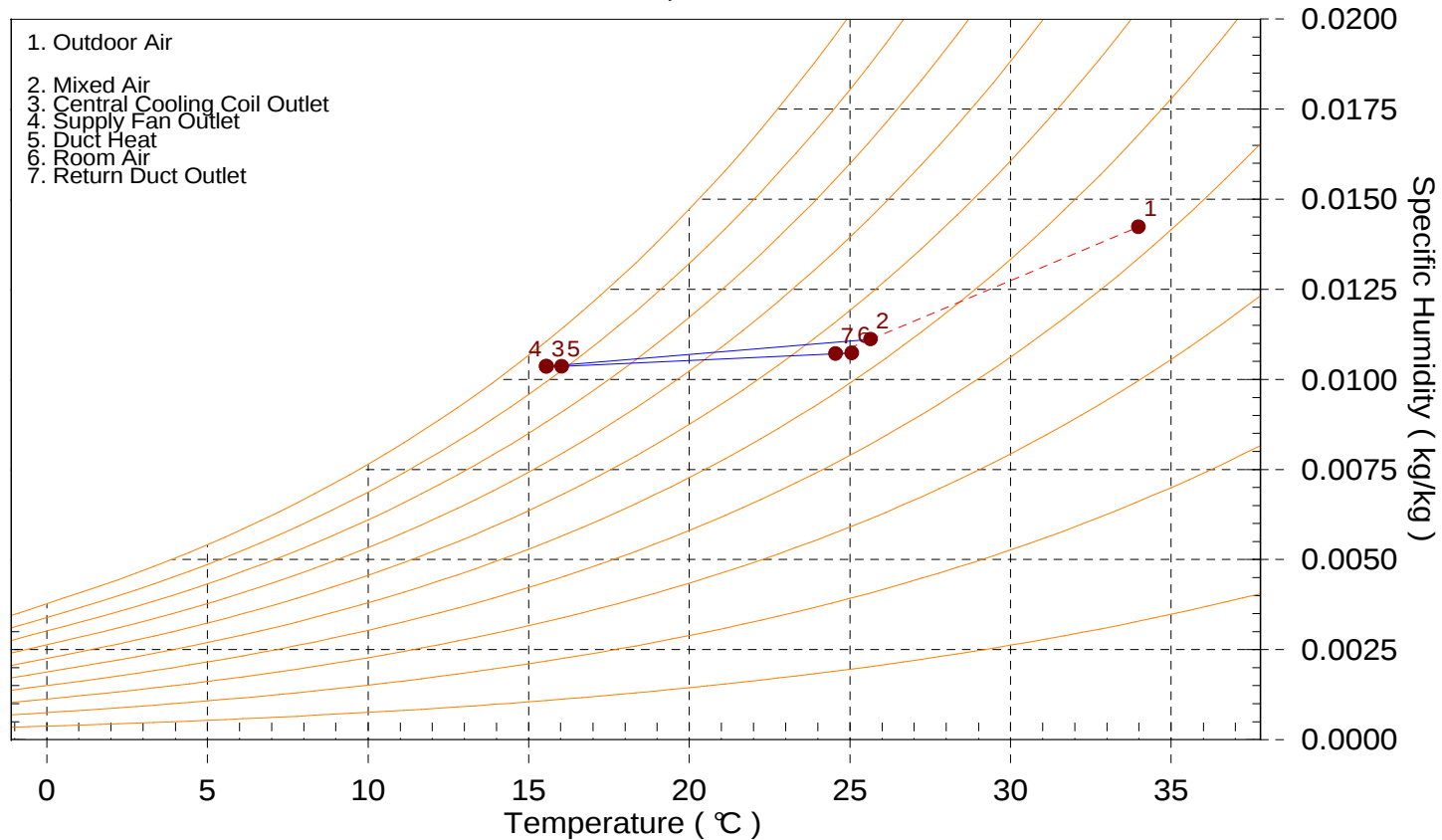
Ministerio Público Fiscal de la Ciudad de Buenos Aires  
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Psychrometric Analysis for Zona 5

Project Name: Av. Cabildo 3067, 4° piso  
Prepared by: SS

04/05/2011  
11:09

Location: Buenos Aires, Argentina  
Altitude: 19.8 m.  
Data for: December DESIGN COOLING DAY, 1600





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**Space Design Load Summary for Zona 5**

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| TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 5 " IN ZONE " Zone 5 " |                                                                                             |          |        |                                                                                            |          |        |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------|--------|--------------------------------------------------------------------------------------------|----------|--------|
|                                                                      | DESIGN COOLING                                                                              |          |        | DESIGN HEATING                                                                             |          |        |
|                                                                      | COOLING DATA AT Jan 1700<br>COOLING OA DB / WB 33.7 °C / 23.5 °C<br>OCCUPIED T-STAT 23.9 °C |          |        | HEATING DATA AT DES HTG<br>HEATING OA DB / WB -0.6 °C / -3.2 °C<br>OCCUPIED T-STAT 21.1 °C |          |        |
|                                                                      |                                                                                             | Sensible | Latent |                                                                                            | Sensible | Latent |
| SPACE LOADS                                                          | Details                                                                                     | (W)      | (W)    | Details                                                                                    | (W)      | (W)    |
| Window & Skylight Solar Loads                                        | 5 m²                                                                                        | 906      | -      | 5 m²                                                                                       | -        | -      |
| Wall Transmission                                                    | 7 m²                                                                                        | 152      | -      | 7 m²                                                                                       | 231      | -      |
| Roof Transmission                                                    | 70 m²                                                                                       | 999      | -      | 70 m²                                                                                      | 869      | -      |
| Window Transmission                                                  | 5 m²                                                                                        | 194      | -      | 5 m²                                                                                       | 505      | -      |
| Skylight Transmission                                                | 0 m²                                                                                        | 0        | -      | 0 m²                                                                                       | 0        | -      |
| Door Loads                                                           | 0 m²                                                                                        | 0        | -      | 0 m²                                                                                       | 0        | -      |
| Floor Transmission                                                   | 70 m²                                                                                       | 0        | -      | 70 m²                                                                                      | 0        | -      |
| Partitions                                                           | 90 m²                                                                                       | 0        | -      | 90 m²                                                                                      | 0        | -      |
| Ceiling                                                              | 0 m²                                                                                        | 0        | -      | 0 m²                                                                                       | 0        | -      |
| Overhead Lighting                                                    | 1890 W                                                                                      | 1776     | -      | 0                                                                                          | 0        | -      |
| Task Lighting                                                        | 0 W                                                                                         | 0        | -      | 0                                                                                          | 0        | -      |
| Electric Equipment                                                   | 5950 W                                                                                      | 5790     | -      | 0                                                                                          | 0        | -      |
| People                                                               | 18                                                                                          | 1162     | 1051   | 0                                                                                          | 0        | 0      |
| Infiltration                                                         | -                                                                                           | 0        | 0      | -                                                                                          | 0        | 0      |
| Miscellaneous                                                        | -                                                                                           | 0        | 0      | -                                                                                          | 0        | 0      |
| Safety Factor                                                        | 5% / 5%                                                                                     | 549      | 53     | 5%                                                                                         | 80       | 0      |
| >> Total Zone Loads                                                  | -                                                                                           | 11528    | 1104   | -                                                                                          | 1685     | 0      |

| TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 5 " IN ZONE " Zone 5 " |      |            |        |                  |                  |                  |
|---------------------------------------------------------------------|------|------------|--------|------------------|------------------|------------------|
|                                                                     | Area | U-Value    | Shade  | COOLING<br>TRANS | COOLING<br>SOLAR | HEATING<br>TRANS |
|                                                                     | (m²) | (W/(m²·K)) | Coeff. | (W)              | (W)              | (W)              |
| <b>WNW EXPOSURE</b>                                                 |      |            |        |                  |                  |                  |
| WALL                                                                | 7    | 1.529      | -      | 152              | -                | 231              |
| WINDOW 1                                                            | 5    | 4.623      | 0.591  | 194              | 906              | 505              |
| <b>H EXPOSURE</b>                                                   |      |            |        |                  |                  |                  |
| ROOF                                                                | 70   | 0.573      | -      | 999              | -                | 869              |



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**Air System Sizing Summary for Zona 5**

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**Air System Information**

Air System Name ..... **Zona 5**  
Equipment Class ..... **SPLT AHU**  
Air System Type ..... **SZCAV**

Number of zones ..... **1**  
Floor Area ..... **70.0** m<sup>2</sup>

**Sizing Calculation Information**

**Zone and Space Sizing Method:**

Zone L/s ..... **Sum of space airflow rates**  
Space L/s ..... **Individual peak space loads**

Calculation Months ..... **Jan to Dec**  
Sizing Data ..... **Calculated**

**Central Cooling Coil Sizing Data**

Total coil load ..... **15.4** kW  
Sensible coil load ..... **13.0** kW  
Coil L/s at Dec 1600 ..... **1067** L/s  
Max block L/s ..... **1067** L/s  
Sum of peak zone L/s ..... **1013** L/s  
Sensible heat ratio ..... **0.845**  
m<sup>2</sup>/kW ..... **4.6**  
W/m<sup>2</sup> ..... **219.4**  
Water flow @ 5.6 °K rise ..... **N/A**

Load occurs at ..... **Dec 1600**  
OA DB / WB ..... **34.0 / 23.7** °C  
Entering DB / WB ..... **25.6 / 19.1** °C  
Leaving DB / WB ..... **15.6 / 14.9** °C  
Coil ADP ..... **14.4** °C  
Bypass Factor ..... **0.100**  
Resulting RH ..... **54** %  
Design supply temp. .... **14.4** °C  
Zone T-stat Check ..... **1 of 1** OK  
Max zone temperature deviation ..... **0.0** °K

**Central Heating Coil Sizing Data**

Max coil load ..... **5.0** kW  
Coil L/s at Des Htg ..... **1067** L/s  
Max coil L/s ..... **1067** L/s  
Water flow @ 11.1 °K drop ..... **N/A**

Load occurs at ..... **Des Htg**  
W/m<sup>2</sup> ..... **71.6**  
Ent. DB / Lvg DB ..... **18.7 / 22.6** °C

**Supply Fan Sizing Data**

Actual max L/s ..... **1067** L/s  
Standard L/s ..... **1064** L/s  
Actual max L/(s-m<sup>2</sup>) ..... **15.24** L/(s-m<sup>2</sup>)

Fan motor BHP ..... **0.03** BHP  
Fan motor kW ..... **0.02** kW  
Fan static ..... **10** Pa

**Outdoor Ventilation Air Data**

Design airflow L/s ..... **124** L/s  
L/(s-m<sup>2</sup>) ..... **1.77** L/(s-m<sup>2</sup>)

l/s/person ..... **7.08** l/s/person



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Zone Design Load Summary for Zona 5

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| Zone 5                        | DESIGN COOLING                       |              |            | DESIGN HEATING                       |              |            |
|-------------------------------|--------------------------------------|--------------|------------|--------------------------------------|--------------|------------|
|                               | COOLING DATA AT Jan 1700             |              |            | HEATING DATA AT DES HTG              |              |            |
|                               | COOLING OA DB / WB 33.7 °C / 23.5 °C |              |            | HEATING OA DB / WB -0.6 °C / -3.2 °C |              |            |
|                               | OCCUPIED T-STAT 23.9 °C              |              |            | OCCUPIED T-STAT 21.1 °C              |              |            |
| ZONE LOADS                    | Details                              | Sensible (W) | Latent (W) | Details                              | Sensible (W) | Latent (W) |
| Window & Skylight Solar Loads | 5 m²                                 | 906          | -          | 5 m²                                 | -            | -          |
| Wall Transmission             | 7 m²                                 | 152          | -          | 7 m²                                 | 231          | -          |
| Roof Transmission             | 70 m²                                | 999          | -          | 70 m²                                | 869          | -          |
| Window Transmission           | 5 m²                                 | 194          | -          | 5 m²                                 | 505          | -          |
| Skylight Transmission         | 0 m²                                 | 0            | -          | 0 m²                                 | 0            | -          |
| Door Loads                    | 0 m²                                 | 0            | -          | 0 m²                                 | 0            | -          |
| Floor Transmission            | 70 m²                                | 0            | -          | 70 m²                                | 0            | -          |
| Partitions                    | 90 m²                                | 0            | -          | 90 m²                                | 0            | -          |
| Ceiling                       | 0 m²                                 | 0            | -          | 0 m²                                 | 0            | -          |
| Overhead Lighting             | 1890 W                               | 1776         | -          | 0                                    | 0            | -          |
| Task Lighting                 | 0 W                                  | 0            | -          | 0                                    | 0            | -          |
| Electric Equipment            | 5950 W                               | 5790         | -          | 0                                    | 0            | -          |
| People                        | 18                                   | 1162         | 1051       | 0                                    | 0            | 0          |
| Infiltration                  | -                                    | 0            | 0          | -                                    | 0            | 0          |
| Miscellaneous                 | -                                    | 0            | 0          | -                                    | 0            | 0          |
| Safety Factor                 | 5% / 5%                              | 549          | 53         | 5%                                   | 80           | 0          |
| >> Total Zone Loads           | -                                    | 11528        | 1104       | -                                    | 1685         | 0          |



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Sizing Calculation Information

Zone and Space Sizing Method:

Zone L/s ..... Sum of space airflow rates  
Space L/s ..... Individual peak space loads

Calculation Months ..... Jan to Dec  
Sizing Data ..... Calculated

Zone Sizing Data

| Zone Name | Maximum Cooling Sensible (kW) | Design Air Flow (L/s) | Minimum Air Flow (L/s) | Time of Peak Load | Maximum Heating Load (kW) | Zone Floor Area (m²) | Zone L/(s-m²) |
|-----------|-------------------------------|-----------------------|------------------------|-------------------|---------------------------|----------------------|---------------|
| Zone 5    | 11.5                          | 1013                  | 1013                   | Jan 1700          | 1.7                       | 70.0                 | 14.48         |

Zone Terminal Sizing Data

No Zone Terminal Sizing Data required for this system.

Space Loads and Airflows

| Zone Name / Space Name | Mult. | Cooling Sensible (kW) | Time of Load | Air Flow (L/s) | Heating Load (kW) | Floor Area (m²) | Space L/(s-m²) |
|------------------------|-------|-----------------------|--------------|----------------|-------------------|-----------------|----------------|
| Zone 5                 |       |                       |              |                |                   |                 |                |
| Zona 5                 | 1     | 11.5                  | Jan 1700     | 1013           | 1.7               | 70.0            | 14.48          |