|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **1R1C** | | **3R1C** | **5R1C** |  |
|  | | | | | |
| Internal temperature | *Tin* | | *Tin* | ϴ*in* |  |
| External Temperature | *Te* | | *Te* | ϴ*e* |  |
|  |  | |  | ϴsup | Mechanical ventilation supply temperature |
|  |  | |  | ϴs | Surface temperature |
|  |  | |  | ϴs | Temperature of thermal mass |
|  | | | | | |
| Resistance of thermal envelope | Renv | | Renv |  |  |
| Equivalent resistance due to ventilation |  | | Rvent | Hve | Transmission coefficient due to ventilation and infiltration |
| Equivalent resistance due to infiltration |  | | Rinf |  |  |
|  | |  |  | Htr,*is* | Coupling conductance [W/k] between the air node and the surface node |
|  |  | |  | Htr,*w* | Transmission coefficients of glazed elements and doors. |
|  |  | |  | Htr,*op* | Transmission coefficients of opaque elements |
|  |  | |  | Htr,*em* | Combined transmission of Htr,*w* andHtr,*op* |
|  | | | | | |
| Capacitance of the room due to thermal mass | Cm | | Cm | Cm | [J/K] |
|  |  | |  |  |  |
| Heating or cooling supplied to the room (controlled using setpoints) |  | | *Q*Heat | *Φ*HC,nd | Energy input from Heating and Cooling |
| Solar heat flux |  | | *Q*sol | *Φ*sol | *Q*sol/3600 [W] |
| Anthropogenic heat flux (internal gains) |  | | *Q*Int | *Φ*Int | *Q*int/3600 [W] |
|  |  | |  | *Φ*ia | internal gains absorbed by air (equal to 0.5 *Φ*Int)[W] |
|  |  | |  | *Φ*m | Portion of internal and solar gains absorbed by thermal mass of the envelope |
|  |  | |  | *Φ*st | Portion of internal and solar gains absorbed by interior thermal mass |
|  |  | |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Prefix** |  | **Suffix** | **Type** | **Construction Date** |
| MULTI)RES |  | 1 | construction | 1920 |
| SINGLE\_RES |  | 2 | construction | 1920-1970 |
| HOTEL |  | 3 | construction | 1970-1980 |
| OFFICE |  | 4 | construction | 1980-2005 |
| RETAIL |  | 5 | construction | 2005-2020 |
| FOODSTORE |  | 6 | construction | 2020-2030 |
| RESTAURANT |  | 7 | Renovation | 1920 |
| INDUSTRIAL |  | 8 | Renovation | 1920-1970 |
| SCHOOL |  | 9 | Renovation | 1970-1980 |
| HOSPITAL |  | 10 | Renovation | 1980-2005 |
| GYM |  | 11 | Renovation | 2005-2020 |
|  |  | 12 | Renovation | 2020-2030 |