**围护结构节能率计算书**

公共建筑

|  |  |
| --- | --- |
| 工程名称 | 绿色佳园 |
| 工程地点 | 福建-泉州 |
| 设计编号 |  |
| 建设单位 |  |
| 设计单位 | 黎明职业大学建筑工程学院 |
| 设 计 人 |  |
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| 设计日期 | 2021年12月22日 |



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| --- | --- |
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**目 录**

[1 建筑概况 3](#_Toc91070168)

[2 计算依据 3](#_Toc91070169)

[3 计算要求 3](#_Toc91070170)

[3.1 计算目标 3](#_Toc91070171)

[3.2 计算方法 3](#_Toc91070172)

[4 围护结构 4](#_Toc91070173)

[4.1 工程材料 4](#_Toc91070174)

[4.2 围护结构作法简要说明 4](#_Toc91070175)

[4.3 体形系数 5](#_Toc91070176)

[4.4 窗墙比 5](#_Toc91070177)

[4.4.1 窗墙比 5](#_Toc91070178)

[4.4.2 外窗表 5](#_Toc91070179)

[4.5 可见光透射比 7](#_Toc91070180)

[4.6 天窗 8](#_Toc91070181)

[4.6.1 天窗屋顶比 8](#_Toc91070182)

[4.6.2 天窗类型 8](#_Toc91070183)

[4.7 屋顶构造 8](#_Toc91070184)

[4.7.1 屋顶构造一 8](#_Toc91070185)

[4.8 外墙构造 8](#_Toc91070186)

[4.8.1 外墙相关构造 8](#_Toc91070187)

[4.8.2 外墙主断面传热系数的修正系数ψ 9](#_Toc91070188)

[4.8.3 外墙平均热工特性 9](#_Toc91070189)

[4.9 挑空楼板构造 10](#_Toc91070190)

[4.9.1 挑空楼板构造一 10](#_Toc91070191)

[4.10 外窗热工 10](#_Toc91070192)

[4.10.1 外窗构造 10](#_Toc91070193)

[4.10.2 外遮阳类型 11](#_Toc91070194)

[4.10.3 平均传热系数 11](#_Toc91070195)

[4.10.4 综合太阳得热系数 14](#_Toc91070196)

[4.10.5 总体热工性能 18](#_Toc91070197)

[5 房间类型 19](#_Toc91070198)

[5.1 房间表 19](#_Toc91070199)

[5.2 作息时间表 19](#_Toc91070200)

[6 计算结果 19](#_Toc91070201)

[6.1 围护结构热工性能对比 19](#_Toc91070202)

[6.2 围护结构节能率 19](#_Toc91070203)

[7 附录 22](#_Toc91070204)

[7.1 工作日/节假日人员逐时在室率(%) 22](#_Toc91070205)

[7.2 工作日/节假日照明开关时间表(%) 22](#_Toc91070206)

[7.3 工作日/节假日设备逐时使用率(%) 22](#_Toc91070207)

# 建筑概况

|  |  |  |
| --- | --- | --- |
| 工程名称 | 绿色佳园 | |
| 工程地点 | 福建-泉州 | |
| 地理位置 | 北纬：24.56° | 东经：118.36° |
| 建筑面积(m2) | 地上12339 地下0 | |
| 建筑层数 | 地上7 地下0 | |
| 建筑高度（m） | 地上30.9 地下0.0 | |
| 建筑体积(m3) | 51993.21 | |
| 建筑外表面积(m2) | 11069.80 | |
| 北向角度 | 83 | |
| 结构类型 |  | |
| 外墙太阳辐射吸收系数 | 0.75 | |
| 屋顶太阳辐射吸收系数 | 0.75 | |

# 计算依据

1. 《绿色建筑评价标准》(GB/T50378-2019)

2. 《民用建筑绿色性能计算标准》(JGJ/T 449-2018)

3. 《公共建筑节能设计标准》(GB50189-2015)

4. 《民用建筑热工设计规范》(GB50176)

# 计算要求

## 计算目标

依据《绿色建筑评价标准》(GB/T50378-2019)第7.2.4条相关内容，对于建筑围护结构节能率进行计算。

## 计算方法

建立参照建筑和设计建筑，两者建筑外形、内部功能分区、气象参数、室内供暖空调设计温度湿度均保持一致。参照建筑取国家或行业建筑节能设计标准规定的建筑围护结构的热工性能参数，设计建筑取实际设计的建筑围护结构的热工性能参数，各自进行全年的逐时动态能耗模拟。

即：围护结构节能率 ＝ （参照建筑全年围护结构耗冷耗热量 － 设计建筑全年围护结构耗冷耗热量）/参照建筑全年围护结构耗冷耗热量× 100%

# 围护结构

## 工程材料

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 | 导热系数λ | 蓄热系数S | 密度ρ | 比热容Cp | 蒸汽渗透系数u | 备注 |
| W/(m.K) | W/(㎡.K) | kg/m3 | J/(kg.K) | g/(m.h.kPa) |
| 水泥砂浆 | 0.930 | 11.370 | 1800.0 | 1050.0 | 0.0210 | 来源：《民用建筑热工设计规范》GB50176-2016 |
| 石灰砂浆 | 0.810 | 10.070 | 1600.0 | 1050.0 | 0.0443 | 来源：《民用建筑热工设计规范》GB50176-2016 |
| 钢筋混凝土 | 1.740 | 17.200 | 2500.0 | 920.0 | 0.0158 | 来源：《民用建筑热工设计规范》GB50176-2016 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 0.030 | 0.340 | 35.0 | 1380.0 | 0.0000 | 来源：《民用建筑热工设计规范》GB50176-2016，蒸汽渗透系数没有给出 |
| 加气混凝土、泡沫混凝土(ρ=700) | 0.180 | 3.100 | 700.0 | 1050.0 | 0.0998 | 来源：《民用建筑热工设计规范》GB50176-2016 |
| 混凝土多孔砖(190六孔砖） | 0.750 | 7.490 | 1450.0 | 709.4 | 0.0000 |  |
| 浮石混凝土(ρ=1100)(水泥焦渣) | 0.420 | 6.130 | 1100.0 | 1050.0 | 0.0353 | 蒸汽渗透系数为测定值 |
| 保温砂浆 | 0.290 | 4.440 | 800.0 | 1050.0 | 0.0000 | 蒸汽渗透系数没有给出 |
| 保温砂浆 | 0.290 | 4.440 | 800.0 | 1050.0 | 0.0000 | 蒸汽渗透系数没有给出 |

## 围护结构作法简要说明

**1. 屋顶构造：**屋顶构造一：（由上到下）

浮石混凝土(ρ=1100)(水泥焦渣) 20mm＋挤塑聚苯乙烯泡沫塑料（带表皮） 20mm＋挤塑聚苯乙烯泡沫塑料（带表皮） 20mm＋保温砂浆 30mm＋加气混凝土、泡沫混凝土(ρ=700) 80mm＋钢筋混凝土 120mm＋保温砂浆 20mm

**2. 外墙构造：**外墙构造一：（由外到内）

水泥砂浆 20mm＋挤塑聚苯乙烯泡沫塑料（带表皮） 20mm＋水泥砂浆 20mm＋钢筋混凝土 200mm＋石灰砂浆 20mm

**3. 挑空楼板构造：**挑空楼板构造一：（由上到下）

水泥砂浆 20mm＋钢筋混凝土 120mm＋水泥砂浆 20mm＋挤塑聚苯乙烯泡沫塑料（带表皮） 20mm＋水泥砂浆 20mm

**4. 外窗构造：**断热铝合金窗--Low-E中空玻璃：

传热系数2.800W/m^2.K，太阳得热系数0.652

## 体形系数

|  |  |
| --- | --- |
| 外表面积 | 11069.80 |
| 建筑体积 | 51993.21 |
| 体形系数 | 0.21 |

## 窗墙比

### 窗墙比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 朝向 | 立面 | 窗面积(㎡) | 墙面积(㎡) | 窗墙比 |
| 南向 | 南-默认立面 | 581.66 | 2284.41 | 0.25 |
| 北向 | 北-默认立面 | 468.69 | 1556.54 | 0.30 |
| 东向 | 东-默认立面 | 218.26 | 1325.43 | 0.16 |
| 西向 | 西-默认立面 | 300.01 | 1705.63 | 0.18 |

### 外窗表

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 朝向 | 立面 | 编号 | 尺寸 | 楼层 | 数量 | 单个面积 （㎡） | 合计面积 （㎡） |
| 南向 | 南-默认立面 581.66 | C0815 | 0.80×1.50 | 3 | 1 | 1.20 | 1.20 |
| C1621a | 1.65×2.10 | 4 | 2 | 3.47 | 6.93 |
| GC0404 | 0.40×0.40 | 4,6 | 6 | 0.16 | 0.96 |
| GC0504 | 0.50×0.40 | 5 | 3 | 0.20 | 0.60 |
| GC4815 | 4.80×1.50 | 2 | 2 | 7.20 | 14.40 |
| TC2217 | 2.20×1.70 | 5 | 6 | 3.74 | 22.44 |
| TC2223 | 2.20×2.30 | 2~4 | 18 | 5.06 | 91.08 |
| TC2226 | 2.20×2.60 | 1 | 6 | 5.72 | 34.32 |
| TC2423 | 2.40×2.30 | 6~7 | 5 | 5.52 | 27.60 |
| TC2523 | 2.50×2.30 | 3~4 | 2 | 5.75 | 11.50 |
| TC2616 | 2.60×1.60 | 2~4 | 3 | 4.16 | 12.48 |
| TC2617 | 2.60×1.70 | 5 | 1 | 4.42 | 4.42 |
| TC2716 | 2.70×1.60 | 7 | 1 | 4.32 | 4.32 |
| TC3016 | 3.00×1.60 | 4~5 | 2 | 4.80 | 9.60 |
| TC3017 | 3.00×1.70 | 6 | 12 | 5.10 | 61.20 |
| TC3023 | 3.00×2.30 | 4~5,7 | 25 | 6.90 | 172.50 |
| TC3623 | 3.60×2.30 | 7 | 10 | 8.28 | 82.80 |
| TC3717 | 3.70×1.70 | 5 | 1 | 6.29 | 6.29 |
| TC3723 | 3.70×2.30 | 3~4 | 2 | 8.51 | 17.02 |
| 北向 | 北-默认立面 468.69 | C1321a | 1.35×2.10 | 1 | 2 | 2.84 | 5.67 |
| C1515 | 1.90×1.50 | 5 | 1 | 2.85 | 2.85 |
| C1515 | 1.50×1.50 | 6~7 | 2 | 2.25 | 4.50 |
| C3021 | 3.00×2.10 | 2 | 1 | 6.30 | 6.30 |
| C3430a | 3.45×3.00 | 4 | 8 | 10.35 | 82.80 |
| C4530 | 4.50×3.00 | 4 | 2 | 13.50 | 27.00 |
| C7221 | 7.20×2.10 | 2 | 1 | 15.12 | 15.12 |
| GC0404 | 0.40×0.40 | 5 | 1 | 0.16 | 0.16 |
| MC-7 | 1.90×2.10 | 3~4 | 2 | 3.99 | 7.98 |
| TC0926 | 0.90×2.60 | 1 | 1 | 2.34 | 2.34 |
| TC1526 | 1.50×2.60 | 1 | 1 | 3.90 | 3.90 |
| TC2417 | 2.40×1.70 | 3 | 7 | 4.08 | 28.56 |
| TC2423 | 2.40×2.30 | 2,4 | 8 | 5.52 | 44.16 |
| TC2626 | 2.60×2.60 | 1 | 2 | 6.76 | 13.52 |
| TC2717 | 2.70×1.70 | 3 | 5 | 4.59 | 22.95 |
| TC2723 | 2.70×2.30 | 2 | 3 | 6.21 | 18.63 |
| TC2726 | 2.70×2.60 | 1 | 4 | 7.02 | 28.08 |
| TC3026 | 3.00×2.60 | 1 | 3 | 7.80 | 23.40 |
| TC3323 | 3.30×2.30 | 4 | 7 | 7.59 | 53.13 |
| TC3623 | 3.60×2.30 | 4 | 1 | 8.28 | 8.28 |
| TC3923 | 3.60×2.30 | 4 | 3 | 8.28 | 24.84 |
| TC4226 | 4.20×2.60 | 1 | 2 | 10.92 | 21.84 |
| TC4227 | 4.20×2.70 | 2 | 2 | 11.34 | 22.68 |
| 东向 | 东-默认立面 218.26 | C0521 | 0.50×2.10 | 1 | 2 | 1.05 | 2.10 |
| C0721 | 0.70×2.10 | 1 | 1 | 1.47 | 1.47 |
| C1021 | 1.00×2.10 | 1 | 1 | 2.10 | 2.10 |
| C1930 | 1.90×3.00 | 4 | 1 | 5.70 | 5.70 |
| C2230 | 2.20×3.00 | 4 | 2 | 6.60 | 13.20 |
| C3021 | 3.00×2.10 | 1 | 1 | 6.30 | 6.30 |
| C3230 | 3.20×3.00 | 4 | 2 | 9.60 | 19.20 |
| C3330 | 3.30×3.00 | 4 | 1 | 9.90 | 9.90 |
| C3430 | 3.40×3.00 | 4 | 3 | 10.20 | 30.60 |
| C3530a | 3.55×3.00 | 4 | 1 | 10.65 | 10.65 |
| C3830 | 3.80×3.00 | 4 | 1 | 11.40 | 11.40 |
| C5730 | 5.70×3.00 | 4 | 2 | 17.10 | 34.20 |
| TC1527 | 1.50×2.70 | 2 | 2 | 4.05 | 8.10 |
| TC1923 | 1.90×2.30 | 4 | 3 | 4.37 | 13.11 |
| TC2517 | 2.50×1.70 | 3 | 1 | 4.25 | 4.25 |
| TC2523 | 2.50×2.30 | 2 | 1 | 5.75 | 5.75 |
| TC3326 | 3.00×2.60 | 1 | 2 | 7.80 | 15.60 |
| TC4527 | 4.50×2.70 | 2 | 1 | 12.15 | 12.15 |
| TC4826 | 4.80×2.60 | 1 | 1 | 12.48 | 12.48 |
| 西向 | 西-默认立面 300.01 | C0321a | 0.35×2.10 | 1 | 2 | 0.74 | 1.47 |
| C0721 | 0.70×2.10 | 1 | 1 | 1.47 | 1.47 |
| C0815 | 0.80×1.50 | 1 | 1 | 1.20 | 1.20 |
| C1930 | 1.90×3.00 | 4 | 1 | 5.70 | 5.70 |
| C2230 | 2.20×3.00 | 4 | 2 | 6.60 | 13.20 |
| C5730 | 5.70×3.00 | 4 | 2 | 17.10 | 34.20 |
| GC0404 | 0.40×0.40 | 1~4 | 12 | 0.16 | 1.92 |
| GC0504 | 0.50×0.40 | 5~6 | 6 | 0.20 | 1.20 |
| MC-4' | 2.74×1.50 | 1 | 1 | 4.10 | 4.10 |
| TC1223 | 1.20×2.30 | 5~6 | 2 | 2.76 | 5.52 |
| TC1527 | 1.50×2.70 | 2 | 2 | 4.05 | 8.10 |
| TC2416 | 2.40×1.60 | 5 | 1 | 3.84 | 3.84 |
| TC2423 | 2.40×2.30 | 4 | 1 | 5.52 | 5.52 |
| TC2517 | 2.50×1.70 | 3 | 1 | 4.25 | 4.25 |
| TC2523 | 2.50×2.30 | 2,4 | 2 | 5.75 | 11.50 |
| TC2716 | 2.70×1.60 | 4,6 | 2 | 4.32 | 8.64 |
| TC2717 | 2.70×1.70 | 3 | 4 | 4.59 | 18.36 |
| TC2723 | 2.70×2.30 | 2,5 | 8 | 6.21 | 49.68 |
| TC3016 | 3.00×1.60 | 2 | 1 | 4.80 | 4.80 |
| TC3017 | 3.00×1.70 | 3 | 1 | 5.10 | 5.10 |
| TC3023 | 3.00×2.30 | 4~6 | 13 | 6.90 | 89.70 |
| TC3126 | 3.10×2.60 | 1 | 1 | 8.06 | 8.06 |
| TC4826 | 4.80×2.60 | 1 | 1 | 12.48 | 12.48 |

## 可见光透射比

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 朝向 | 立面 | 窗墙比 | 最不利窗编号 | 最不利透射比 | 透射比限值 |
| 南向 | 南-默认立面 | 0.25 | TC2423 | 1.00 | 0.60 |
| 北向 | 北-默认立面 | 0.30 | C1515 | 1.00 | 0.60 |
| 东向 | 东-默认立面 | 0.16 | C3530a | 1.00 | 0.60 |
| 西向 | 西-默认立面 | 0.18 | TC3023 | 1.00 | 0.60 |

## 天窗

### 天窗屋顶比

本工程无此项内容

### 天窗类型

本工程无此项内容

## 屋顶构造

### 屋顶构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 （由上到下） | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 浮石混凝土(ρ=1100)(水泥焦渣) | 20 | 0.420 | 6.130 | 1.00 | 0.048 | 0.292 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 20 | 0.030 | 0.340 | 1.20 | 0.556 | 0.227 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 20 | 0.030 | 0.340 | 1.20 | 0.556 | 0.227 |
| 保温砂浆 | 30 | 0.290 | 4.440 | 1.00 | 0.103 | 0.459 |
| 加气混凝土、泡沫混凝土(ρ=700) | 80 | 0.180 | 3.100 | 1.00 | 0.444 | 1.378 |
| 钢筋混凝土 | 120 | 1.740 | 17.200 | 1.00 | 0.069 | 1.186 |
| 保温砂浆 | 20 | 0.290 | 4.440 | 1.00 | 0.069 | 0.306 |
| 各层之和∑ | 310 | － | － | － | 1.845 | 4.075 |
| 外表面太阳辐射吸收系数 | 0.75 | | | | | |
| 传热系数K=1/(0.16+∑R) | 0.50 | | | | | |

## 外墙构造

### 外墙相关构造

#### 外墙构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 （由外到内） | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 20 | 0.030 | 0.340 | 1.20 | 0.556 | 0.227 |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 钢筋混凝土 | 200 | 1.740 | 17.200 | 1.00 | 0.115 | 1.977 |
| 石灰砂浆 | 20 | 0.810 | 10.070 | 1.00 | 0.025 | 0.249 |
| 各层之和∑ | 280 | － | － | － | 0.738 | 2.941 |
| 外表面太阳辐射吸收系数 | 0.75 | | | | | |
| 传热系数K=1/(0.16+∑R) | 1.11 | | | | | |

#### 热桥柱构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 （由外到内） | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 20 | 0.030 | 0.340 | 1.20 | 0.556 | 0.227 |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 钢筋混凝土 | 200 | 1.740 | 17.200 | 1.00 | 0.115 | 1.977 |
| 石灰砂浆 | 20 | 0.810 | 10.070 | 1.00 | 0.025 | 0.249 |
| 各层之和∑ | 280 | － | － | － | 0.738 | 2.941 |
| 外表面太阳辐射吸收系数 | 0.75 | | | | | |
| 传热系数K=1/(0.16+∑R) | 1.11 | | | | | |

### 外墙主断面传热系数的修正系数ψ

### 外墙平均热工特性

1.　南向

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构件类型 | 面积(㎡) | 面积所占比例 | 传热系数K W / (㎡K) | 热惰性指标D | 太阳辐射吸收系数 |
| 外墙构造一 | 主墙体 | 1686.37 | 1.000 | 1.11 | 2.94 | 0.75 |
| 考虑线性热桥后K | 1.11 × 1.00 = 1.11 | | | | | |

2.　北向

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构件类型 | 面积(㎡) | 面积所占比例 | 传热系数K W / (㎡K) | 热惰性指标D | 太阳辐射吸收系数 |
| 外墙构造一 | 主墙体 | 1078.40 | 1.000 | 1.11 | 2.94 | 0.75 |
| 考虑线性热桥后K | 1.11 × 1.00 = 1.11 | | | | | |

3.　东向

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构件类型 | 面积(㎡) | 面积所占比例 | 传热系数K W / (㎡K) | 热惰性指标D | 太阳辐射吸收系数 |
| 外墙构造一 | 主墙体 | 1096.46 | 1.000 | 1.11 | 2.94 | 0.75 |
| 考虑线性热桥后K | 1.11 × 1.00 = 1.11 | | | | | |

4.　西向

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构件类型 | 面积(㎡) | 面积所占比例 | 传热系数K W / (㎡K) | 热惰性指标D | 太阳辐射吸收系数 |
| 外墙构造一 | 主墙体 | 1391.31 | 1.000 | 1.11 | 2.94 | 0.75 |
| 考虑线性热桥后K | 1.11 × 1.00 = 1.11 | | | | | |

5.　总体

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构件类型 | 面积(㎡) | 面积所占比例 | 传热系数K W / (㎡K) | 热惰性指标D | 太阳辐射吸收系数 |
| 外墙构造一 | 主墙体 | 5252.53 | 1.000 | 1.11 | 2.94 | 0.75 |
| 考虑线性热桥后K | 1.11 × 1.00 = 1.11 | | | | | |

## 挑空楼板构造

### 挑空楼板构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 （由上到下） | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 钢筋混凝土 | 120 | 1.740 | 17.200 | 1.00 | 0.069 | 1.186 |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 挤塑聚苯乙烯泡沫塑料（带表皮） | 20 | 0.030 | 0.340 | 1.20 | 0.556 | 0.227 |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 各层之和∑ | 200 | － | － | － | 0.689 | 2.146 |
| 传热系数K=1/(0.16+∑R) | 1.18 | | | | | |

## 外窗热工

### 外窗构造

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 序号 | 构造名称 | 构造编号 | 传热系数 | 太阳得热系数 | 可见光透射比 | 备注 |
| 1 | 断热铝合金窗--Low-E中空玻璃 | 74 | 2.80 | 0.65 | 1.000 | 摘自《福建省居住建筑节能设计标准实施细则》55页 |

### 外遮阳类型

#### 百叶遮阳



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 编号 | 挑出 A (m) | 百叶间距 D (m) | 下垂 C (m) |
| 1 | 百叶遮阳0 | 0.244 | 0.400 | 0.141 |

### 平均传热系数

1. 南向：

南-默认立面

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 传热系数 |
| 1 | C0815 | 3 | 1 | 1.200 | 1.200 | 74 | 2.800 |
| 2 | C1621a | 4 | 2 | 3.465 | 6.930 | 74 | 2.800 |
| 3 | GC0404 | 4,6 | 6 | 0.160 | 0.960 | 74 | 2.800 |
| 4 | GC0504 | 5 | 3 | 0.200 | 0.600 | 74 | 2.800 |
| 5 | GC4815 | 2 | 2 | 7.200 | 14.400 | 74 | 2.800 |
| 6 | TC2217 | 5 | 6 | 3.740 | 22.440 | 74 | 2.800 |
| 7 | TC2223 | 2~4 | 18 | 5.060 | 91.080 | 74 | 2.800 |
| 8 | TC2226 | 1 | 6 | 5.720 | 34.320 | 74 | 2.800 |
| 9 | TC2423 | 6~7 | 5 | 5.520 | 27.600 | 74 | 2.800 |
| 10 | TC2523 | 3~4 | 2 | 5.750 | 11.500 | 74 | 2.800 |
| 11 | TC2616 | 2~4 | 3 | 4.160 | 12.480 | 74 | 2.800 |
| 12 | TC2617 | 5 | 1 | 4.420 | 4.420 | 74 | 2.800 |
| 13 | TC2716 | 7 | 1 | 4.320 | 4.320 | 74 | 2.800 |
| 14 | TC3016 | 4~5 | 2 | 4.800 | 9.600 | 74 | 2.800 |
| 15 | TC3017 | 6 | 12 | 5.100 | 61.200 | 74 | 2.800 |
| 16 | TC3023 | 4~5,7 | 25 | 6.900 | 172.500 | 74 | 2.800 |
| 17 | TC3623 | 7 | 10 | 8.280 | 82.800 | 74 | 2.800 |
| 18 | TC3717 | 5 | 1 | 6.290 | 6.290 | 74 | 2.800 |
| 19 | TC3723 | 3~4 | 2 | 8.510 | 17.020 | 74 | 2.800 |
| 立面总面积(㎡) | | | 581.660 | 立面平均传热系数 | | | 2.800 |

2. 北向：

北-默认立面

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 传热系数 |
| 1 | C1321a | 1 | 2 | 2.835 | 5.670 | 74 | 2.800 |
| 2 | C1515 | 5 | 1 | 2.850 | 2.850 | 74 | 2.800 |
| 3 | C1515 | 6~7 | 2 | 2.250 | 4.500 | 74 | 2.800 |
| 4 | C3021 | 2 | 1 | 6.300 | 6.300 | 74 | 2.800 |
| 5 | C3430a | 4 | 8 | 10.350 | 82.800 | 74 | 2.800 |
| 6 | C4530 | 4 | 2 | 13.500 | 27.000 | 74 | 2.800 |
| 7 | C7221 | 2 | 1 | 15.120 | 15.120 | 74 | 2.800 |
| 8 | GC0404 | 5 | 1 | 0.160 | 0.160 | 74 | 2.800 |
| 9 | MC-7 | 3~4 | 2 | 3.990 | 7.980 | 74 | 2.800 |
| 10 | TC0926 | 1 | 1 | 2.340 | 2.340 | 74 | 2.800 |
| 11 | TC1526 | 1 | 1 | 3.900 | 3.900 | 74 | 2.800 |
| 12 | TC2417 | 3 | 7 | 4.080 | 28.560 | 74 | 2.800 |
| 13 | TC2423 | 2,4 | 8 | 5.520 | 44.160 | 74 | 2.800 |
| 14 | TC2626 | 1 | 2 | 6.760 | 13.520 | 74 | 2.800 |
| 15 | TC2717 | 3 | 5 | 4.590 | 22.950 | 74 | 2.800 |
| 16 | TC2723 | 2 | 3 | 6.210 | 18.630 | 74 | 2.800 |
| 17 | TC2726 | 1 | 4 | 7.020 | 28.080 | 74 | 2.800 |
| 18 | TC3026 | 1 | 3 | 7.800 | 23.400 | 74 | 2.800 |
| 19 | TC3323 | 4 | 7 | 7.590 | 53.130 | 74 | 2.800 |
| 20 | TC3623 | 4 | 1 | 8.280 | 8.280 | 74 | 2.800 |
| 21 | TC3923 | 4 | 3 | 8.280 | 24.840 | 74 | 2.800 |
| 22 | TC4226 | 1 | 2 | 10.920 | 21.840 | 74 | 2.800 |
| 23 | TC4227 | 2 | 2 | 11.340 | 22.680 | 74 | 2.800 |
| 立面总面积(㎡) | | | 468.690 | 立面平均传热系数 | | | 2.800 |

3. 东向：

东-默认立面

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 传热系数 |
| 1 | C0521 | 1 | 2 | 1.050 | 2.100 | 74 | 2.800 |
| 2 | C0721 | 1 | 1 | 1.470 | 1.470 | 74 | 2.800 |
| 3 | C1021 | 1 | 1 | 2.100 | 2.100 | 74 | 2.800 |
| 4 | C1930 | 4 | 1 | 5.700 | 5.700 | 74 | 2.800 |
| 5 | C2230 | 4 | 2 | 6.600 | 13.200 | 74 | 2.800 |
| 6 | C3021 | 1 | 1 | 6.300 | 6.300 | 74 | 2.800 |
| 7 | C3230 | 4 | 2 | 9.600 | 19.200 | 74 | 2.800 |
| 8 | C3330 | 4 | 1 | 9.900 | 9.900 | 74 | 2.800 |
| 9 | C3430 | 4 | 3 | 10.200 | 30.600 | 74 | 2.800 |
| 10 | C3530a | 4 | 1 | 10.650 | 10.650 | 74 | 2.800 |
| 11 | C3830 | 4 | 1 | 11.400 | 11.400 | 74 | 2.800 |
| 12 | C5730 | 4 | 2 | 17.100 | 34.200 | 74 | 2.800 |
| 13 | TC1527 | 2 | 2 | 4.050 | 8.100 | 74 | 2.800 |
| 14 | TC1923 | 4 | 3 | 4.370 | 13.110 | 74 | 2.800 |
| 15 | TC2517 | 3 | 1 | 4.250 | 4.250 | 74 | 2.800 |
| 16 | TC2523 | 2 | 1 | 5.750 | 5.750 | 74 | 2.800 |
| 17 | TC3326 | 1 | 2 | 7.800 | 15.600 | 74 | 2.800 |
| 18 | TC4527 | 2 | 1 | 12.150 | 12.150 | 74 | 2.800 |
| 19 | TC4826 | 1 | 1 | 12.480 | 12.480 | 74 | 2.800 |
| 立面总面积(㎡) | | | 218.260 | 立面平均传热系数 | | | 2.800 |

4. 西向：

西-默认立面

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 传热系数 |
| 1 | C0321a | 1 | 2 | 0.735 | 1.470 | 74 | 2.800 |
| 2 | C0721 | 1 | 1 | 1.470 | 1.470 | 74 | 2.800 |
| 3 | C0815 | 1 | 1 | 1.200 | 1.200 | 74 | 2.800 |
| 4 | C1930 | 4 | 1 | 5.700 | 5.700 | 74 | 2.800 |
| 5 | C2230 | 4 | 2 | 6.600 | 13.200 | 74 | 2.800 |
| 6 | C5730 | 4 | 2 | 17.100 | 34.200 | 74 | 2.800 |
| 7 | GC0404 | 1~4 | 12 | 0.160 | 1.920 | 74 | 2.800 |
| 8 | GC0504 | 5~6 | 6 | 0.200 | 1.200 | 74 | 2.800 |
| 9 | MC-4' | 1 | 1 | 4.104 | 4.104 | 74 | 2.800 |
| 10 | TC1223 | 5~6 | 2 | 2.760 | 5.520 | 74 | 2.800 |
| 11 | TC1527 | 2 | 2 | 4.050 | 8.100 | 74 | 2.800 |
| 12 | TC2416 | 5 | 1 | 3.840 | 3.840 | 74 | 2.800 |
| 13 | TC2423 | 4 | 1 | 5.520 | 5.520 | 74 | 2.800 |
| 14 | TC2517 | 3 | 1 | 4.250 | 4.250 | 74 | 2.800 |
| 15 | TC2523 | 2,4 | 2 | 5.750 | 11.500 | 74 | 2.800 |
| 16 | TC2716 | 4,6 | 2 | 4.320 | 8.640 | 74 | 2.800 |
| 17 | TC2717 | 3 | 4 | 4.590 | 18.360 | 74 | 2.800 |
| 18 | TC2723 | 2,5 | 8 | 6.210 | 49.680 | 74 | 2.800 |
| 19 | TC3016 | 2 | 1 | 4.800 | 4.800 | 74 | 2.800 |
| 20 | TC3017 | 3 | 1 | 5.100 | 5.100 | 74 | 2.800 |
| 21 | TC3023 | 4~6 | 13 | 6.900 | 89.700 | 74 | 2.800 |
| 22 | TC3126 | 1 | 1 | 8.060 | 8.060 | 74 | 2.800 |
| 23 | TC4826 | 1 | 1 | 12.480 | 12.480 | 74 | 2.800 |
| 立面总面积(㎡) | | | 300.014 | 立面平均传热系数 | | | 2.800 |

### 综合太阳得热系数

1. 南向：

南-默认立面

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 窗太阳得热系数 | 外遮阳编号 | 外遮阳系数 | 综合太阳得热系数 |
| 1 | C0815 | 3 | 1 | 1.200 | 1.200 | 74 | 0.652 | 百叶遮阳0 | 0.605 | 0.394 |
| 2 | C1621a | 4 | 2 | 3.465 | 6.930 | 74 | 0.652 | 百叶遮阳0 | 0.596 | 0.389 |
| 3 | GC0404 | 4,6 | 6 | 0.160 | 0.960 | 74 | 0.652 | 百叶遮阳0 | 0.622 | 0.406 |
| 4 | GC0504 | 5 | 3 | 0.200 | 0.600 | 74 | 0.652 | 百叶遮阳0 | 0.615 | 0.401 |
| 5 | GC4815 | 2 | 2 | 7.200 | 14.400 | 74 | 0.652 | 百叶遮阳0 | 0.591 | 0.385 |
| 6 | TC2217 | 5 | 6 | 3.740 | 22.440 | 74 | 0.652 | 百叶遮阳0 | 0.594 | 0.387 |
| 7 | TC2223 | 2~4 | 18 | 5.060 | 91.080 | 74 | 0.652 | 百叶遮阳0 | 0.594 | 0.387 |
| 8 | TC2226 | 1 | 6 | 5.720 | 34.320 | 74 | 0.652 | 百叶遮阳0 | 0.594 | 0.387 |
| 9 | TC2423 | 6~7 | 5 | 5.520 | 27.600 | 74 | 0.652 | 百叶遮阳0 | 0.593 | 0.387 |
| 10 | TC2523 | 3~4 | 2 | 5.750 | 11.500 | 74 | 0.652 | 百叶遮阳0 | 0.593 | 0.387 |
| 11 | TC2616 | 2~4 | 3 | 4.160 | 12.480 | 74 | 0.652 | 百叶遮阳0 | 0.593 | 0.387 |
| 12 | TC2617 | 5 | 1 | 4.420 | 4.420 | 74 | 0.652 | 百叶遮阳0 | 0.593 | 0.387 |
| 13 | TC2716 | 7 | 1 | 4.320 | 4.320 | 74 | 0.652 | 百叶遮阳0 | 0.593 | 0.386 |
| 14 | TC3016 | 4~5 | 2 | 4.800 | 9.600 | 74 | 0.652 | 百叶遮阳0 | 0.592 | 0.386 |
| 15 | TC3017 | 6 | 12 | 5.100 | 61.200 | 74 | 0.652 | 百叶遮阳0 | 0.592 | 0.386 |
| 16 | TC3023 | 4~5,7 | 25 | 6.900 | 172.500 | 74 | 0.652 | 百叶遮阳0 | 0.592 | 0.386 |
| 17 | TC3623 | 7 | 10 | 8.280 | 82.800 | 74 | 0.652 | 百叶遮阳0 | 0.591 | 0.386 |
| 18 | TC3717 | 5 | 1 | 6.290 | 6.290 | 74 | 0.652 | 百叶遮阳0 | 0.591 | 0.386 |
| 19 | TC3723 | 3~4 | 2 | 8.510 | 17.020 | 74 | 0.652 | 百叶遮阳0 | 0.591 | 0.386 |
| 立面总面积(㎡) | | | | | 581.660 | 综合太阳得热系数 | | | 0.593 | 0.386 |

2. 北向：

北-默认立面

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 窗太阳得热系数 | 外遮阳编号 | 外遮阳系数 | 综合太阳得热系数 |
| 1 | C1321a | 1 | 2 | 2.835 | 5.670 | 74 | 0.652 | 百叶遮阳0 | 0.683 | 0.445 |
| 2 | C1515 | 5 | 1 | 2.850 | 2.850 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 3 | C1515 | 6~7 | 2 | 2.250 | 4.500 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 4 | C3021 | 2 | 1 | 6.300 | 6.300 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 5 | C3430a | 4 | 8 | 10.350 | 82.800 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 6 | C4530 | 4 | 2 | 13.500 | 27.000 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 7 | C7221 | 2 | 1 | 15.120 | 15.120 | 74 | 0.652 | 百叶遮阳0 | 0.681 | 0.444 |
| 8 | GC0404 | 5 | 1 | 0.160 | 0.160 | 74 | 0.652 | 百叶遮阳0 | 0.686 | 0.447 |
| 9 | MC-7 | 3~4 | 2 | 3.990 | 7.980 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 10 | TC0926 | 1 | 1 | 2.340 | 2.340 | 74 | 0.652 | 百叶遮阳0 | 0.683 | 0.446 |
| 11 | TC1526 | 1 | 1 | 3.900 | 3.900 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 12 | TC2417 | 3 | 7 | 4.080 | 28.560 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 13 | TC2423 | 2,4 | 8 | 5.520 | 44.160 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 14 | TC2626 | 1 | 2 | 6.760 | 13.520 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 15 | TC2717 | 3 | 5 | 4.590 | 22.950 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 16 | TC2723 | 2 | 3 | 6.210 | 18.630 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 17 | TC2726 | 1 | 4 | 7.020 | 28.080 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 18 | TC3026 | 1 | 3 | 7.800 | 23.400 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.445 |
| 19 | TC3323 | 4 | 7 | 7.590 | 53.130 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 20 | TC3623 | 4 | 1 | 8.280 | 8.280 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 21 | TC3923 | 4 | 3 | 8.280 | 24.840 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 22 | TC4226 | 1 | 2 | 10.920 | 21.840 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 23 | TC4227 | 2 | 2 | 11.340 | 22.680 | 74 | 0.652 | 百叶遮阳0 | 0.682 | 0.444 |
| 立面总面积(㎡) | | | | | 468.690 | 综合太阳得热系数 | | | 0.682 | 0.445 |

3. 东向：

东-默认立面

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 窗太阳得热系数 | 外遮阳编号 | 外遮阳系数 | 综合太阳得热系数 |
| 1 | C0521 | 1 | 2 | 1.050 | 2.100 | 74 | 0.652 | 百叶遮阳0 | 0.580 | 0.378 |
| 2 | C0721 | 1 | 1 | 1.470 | 1.470 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 3 | C1021 | 1 | 1 | 2.100 | 2.100 | 74 | 0.652 | 百叶遮阳0 | 0.572 | 0.373 |
| 4 | C1930 | 4 | 1 | 5.700 | 5.700 | 74 | 0.652 | 百叶遮阳0 | 0.568 | 0.371 |
| 5 | C2230 | 4 | 2 | 6.600 | 13.200 | 74 | 0.652 | 百叶遮阳0 | 0.568 | 0.370 |
| 6 | C3021 | 1 | 1 | 6.300 | 6.300 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.370 |
| 7 | C3230 | 4 | 2 | 9.600 | 19.200 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.369 |
| 8 | C3330 | 4 | 1 | 9.900 | 9.900 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.369 |
| 9 | C3430 | 4 | 3 | 10.200 | 30.600 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 10 | C3530a | 4 | 1 | 10.650 | 10.650 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 11 | C3830 | 4 | 1 | 11.400 | 11.400 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 12 | C5730 | 4 | 2 | 17.100 | 34.200 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 13 | TC1527 | 2 | 2 | 4.050 | 8.100 | 74 | 0.652 | 百叶遮阳0 | 0.569 | 0.371 |
| 14 | TC1923 | 4 | 3 | 4.370 | 13.110 | 74 | 0.652 | 百叶遮阳0 | 0.568 | 0.371 |
| 15 | TC2517 | 3 | 1 | 4.250 | 4.250 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.370 |
| 16 | TC2523 | 2 | 1 | 5.750 | 5.750 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.370 |
| 17 | TC3326 | 1 | 2 | 7.800 | 15.600 | 74 | 0.652 | 百叶遮阳0 | 0.567 | 0.370 |
| 18 | TC4527 | 2 | 1 | 12.150 | 12.150 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 19 | TC4826 | 1 | 1 | 12.480 | 12.480 | 74 | 0.652 | 百叶遮阳0 | 0.566 | 0.369 |
| 立面总面积(㎡) | | | | | 218.260 | 综合太阳得热系数 | | | 0.567 | 0.370 |

4. 西向：

西-默认立面

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 门窗编号 | 楼层 | 数量 | 单个面积（㎡） | 总面积（㎡） | 构造编号 | 窗太阳得热系数 | 外遮阳编号 | 外遮阳系数 | 综合太阳得热系数 |
| 1 | C0321a | 1 | 2 | 0.735 | 1.470 | 74 | 0.652 | 百叶遮阳0 | 0.595 | 0.388 |
| 2 | C0721 | 1 | 1 | 1.470 | 1.470 | 74 | 0.652 | 百叶遮阳0 | 0.584 | 0.380 |
| 3 | C0815 | 1 | 1 | 1.200 | 1.200 | 74 | 0.652 | 百叶遮阳0 | 0.582 | 0.380 |
| 4 | C1930 | 4 | 1 | 5.700 | 5.700 | 74 | 0.652 | 百叶遮阳0 | 0.576 | 0.376 |
| 5 | C2230 | 4 | 2 | 6.600 | 13.200 | 74 | 0.652 | 百叶遮阳0 | 0.576 | 0.375 |
| 6 | C5730 | 4 | 2 | 17.100 | 34.200 | 74 | 0.652 | 百叶遮阳0 | 0.574 | 0.374 |
| 7 | GC0404 | 1~4 | 12 | 0.160 | 1.920 | 74 | 0.652 | 百叶遮阳0 | 0.592 | 0.386 |
| 8 | GC0504 | 5~6 | 6 | 0.200 | 1.200 | 74 | 0.652 | 百叶遮阳0 | 0.588 | 0.383 |
| 9 | MC-4' | 1 | 1 | 4.104 | 4.104 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 10 | TC1223 | 5~6 | 2 | 2.760 | 5.520 | 74 | 0.652 | 百叶遮阳0 | 0.579 | 0.377 |
| 11 | TC1527 | 2 | 2 | 4.050 | 8.100 | 74 | 0.652 | 百叶遮阳0 | 0.578 | 0.377 |
| 12 | TC2416 | 5 | 1 | 3.840 | 3.840 | 74 | 0.652 | 百叶遮阳0 | 0.576 | 0.375 |
| 13 | TC2423 | 4 | 1 | 5.520 | 5.520 | 74 | 0.652 | 百叶遮阳0 | 0.576 | 0.375 |
| 14 | TC2517 | 3 | 1 | 4.250 | 4.250 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 15 | TC2523 | 2,4 | 2 | 5.750 | 11.500 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 16 | TC2716 | 4,6 | 2 | 4.320 | 8.640 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 17 | TC2717 | 3 | 4 | 4.590 | 18.360 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 18 | TC2723 | 2,5 | 8 | 6.210 | 49.680 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 19 | TC3016 | 2 | 1 | 4.800 | 4.800 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 20 | TC3017 | 3 | 1 | 5.100 | 5.100 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 21 | TC3023 | 4~6 | 13 | 6.900 | 89.700 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 22 | TC3126 | 1 | 1 | 8.060 | 8.060 | 74 | 0.652 | 百叶遮阳0 | 0.575 | 0.375 |
| 23 | TC4826 | 1 | 1 | 12.480 | 12.480 | 74 | 0.652 | 百叶遮阳0 | 0.574 | 0.374 |
| 立面总面积(㎡) | | | | | 300.014 | 综合太阳得热系数 | | | 0.575 | 0.375 |

### 总体热工性能

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 朝向 | 立面 | 面积 | 传热系数 | 综合太阳得热系数 | 窗墙比 |
| 南向 | 南-默认立面 | 581.66 | 2.80 | 0.39 | 0.25 |
| 北向 | 北-默认立面 | 468.69 | 2.80 | 0.44 | 0.30 |
| 东向 | 东-默认立面 | 218.26 | 2.80 | 0.37 | 0.16 |
| 西向 | 西-默认立面 | 300.01 | 2.80 | 0.38 | 0.18 |
| 综合平均 |  | 1568.62 | 2.80 | 0.40 | 0.23 |

注：本表所统计的外窗包含凸窗。

# 房间类型

## 房间表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 空调温度 ℃ | 供暖温度 ℃ | 新风量 | 人员密度 | 照明功率 密度 | 电器设备 功率 |
| 办公-普通办公室 | 26 | 20 | 30(m3/h.人) | 8(㎡/人) | 9(W/㎡) | 15(W/㎡) |
| 空房间 | － | － | 20(m3/h.人) | 50(㎡/人) | 0(W/㎡) | 0(W/㎡) |

## 作息时间表

详见附录

# 计算结果

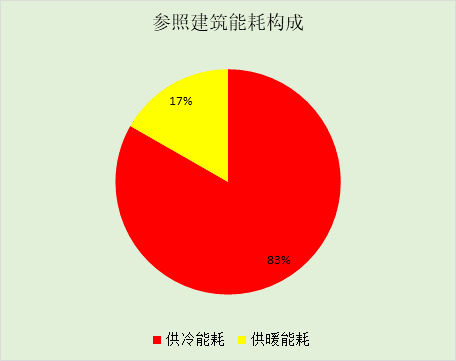
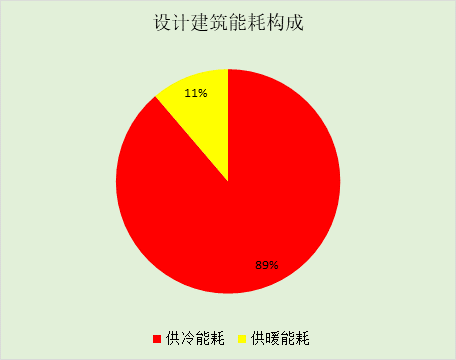
## 围护结构热工性能对比

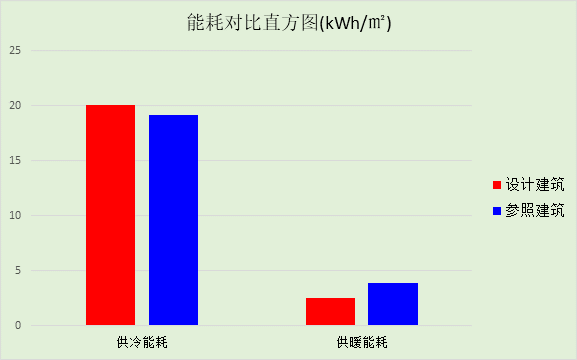
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 设计建筑 | | | 参照建筑 | | |
| 屋顶传热系数K [W/(m2·K)] | | | 0.50(D:4.08) | | | 0.80 | | |
| 外墙（包括非透明幕墙）传热系数K [W/(m2·K)] | | | 1.11(D:2.94) | | | 1.50 | | |
| 屋顶透明部分传热系数  K [W/(m2·K)] | | | － | | | － | | |
| 屋顶透明部分太阳得热系数 | | | － | | | － | | |
| 底面接触室外的架空或外挑楼板传热系数K [W/(m2·K)] | | | 1.18 | | | 1.50 | | |
| 外窗（包括透明幕墙） | 朝向 | 立面 | 窗墙比 | 传热  系数 | 太阳得热系数 | 窗墙比 | 传热  系数 | 太阳得热系数 |
| 南向 | 南-默认立面 | 0.25 | 2.80 | 0.39 | 0.25 | 4.00 | 0.44 |
| 北向 | 北-默认立面 | 0.30 | 2.80 | 0.44 | 0.30 | 4.00 | 0.52 |
| 东向 | 东-默认立面 | 0.16 | 2.80 | 0.37 | 0.16 | 5.20 | 0.52 |
| 西向 | 西-默认立面 | 0.18 | 2.80 | 0.38 | 0.18 | 5.20 | 0.52 |

备注：1. — 代表本工程无对应项; 2. ——代表参照建筑不要求，取值同设计建筑。

## 围护结构节能率

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 能耗分类 | 能耗子类 | 设计建筑  (kWh/㎡) | 参照建筑  (kWh/㎡) | 节能率  （%） |
| 建筑负荷 | 耗冷量 | 50.16 | 48.02 | -4.46% |
| 耗热量 | 5.58 | 8.49 | 34.26% |
| 冷热合计 | 55.74 | 56.50 | 1.35% |
| 供冷能耗 | 综合效率折算权重 | 2.5 | 2.5 | -4.46% |
| 供冷能耗 | 20.06 | 19.21 |
| 供暖能耗 | 综合效率折算权重 | 2.2 | 2.2 | 34.26% |
| 供暖能耗 | 2.54 | 3.86 |
| 供暖供冷综合能耗 | | 22.60 | 23.06 | 2.01% |





# 附录

## 工作日/节假日人员逐时在室率(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 办公-普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 30 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 空房间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 0 | 0 | 0 |

注：上行：工作日；下行：节假日

## 工作日/节假日照明开关时间表(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 办公-普通办公室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 36 | 62 | 56 | 54 | 43 | 53 | 55 | 58 | 67 | 40 | 18 | 10 | 10 | 10 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 空房间 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |

注：上行：工作日；下行：节假日

## 工作日/节假日设备逐时使用率(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 办公-普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 空房间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 0 | 0 | 0 |

注：上行：工作日；下行：节假日