**建筑节能设计报告书**

公共建筑－综合权衡

甲类

|  |  |
| --- | --- |
| 工程名称 | 渔人码头综合体改造 |
| 工程地点 | 广东-广州 |
| 设计编号 | 001 |
| 建设单位 | 广州港集团有限公司 |
| 设计单位 | 广州番禺职业技术学院绿建三联建筑设计工作室 |
| 设 计 人 |  |
| 校 对 人 |  |
| 审 核 人 |  |
| 设计日期 | 2021年3月13日 |



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| 采用软件 | 节能设计BECS2020 |
| 软件版本 | 20200505(SP1) |
| 研发单位 | 北京绿建软件股份有限公司 |
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# 建筑概况

|  |  |  |
| --- | --- | --- |
| 工程名称 | 渔人码头综合体改造 | |
| 工程地点 | 广东-广州 | |
| 地理位置 | 北纬：23.08° | 东经：113.14° |
| 建筑面积 | 地上26688㎡ 地下0㎡ | |
| 建筑层数 | 地上7 地下0 | |
| 建筑高度 | 27.8m | |
| 建筑（节能计算）体积 | 128777.63 | |
| 建筑（节能计算）外表面积 | 22949.79 | |
| 北向角度 | 135 | |
| 结构类型 | 框架剪力墙结构 | |
| 外墙太阳辐射吸收系数 | 0.75 | |
| 屋顶太阳辐射吸收系数 | 0.75 | |

# 设计依据

1. 《公共建筑节能设计标准》(GB50189-2015)

2. 《民用建筑热工设计规范》(GB50176)

3. 《建筑外门窗气密，水密，抗风压性能分级及检测方法》（GB/T 7106-2008）

4. 《建筑幕墙》（GB/T 21086-2007）

# 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 |
| 碎石、卵石混凝土(ρ=2300) | 1.510 | 15.360 | 2300.0 | 920.0 | 0.0173 | 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 |  |

# 围护结构作法简要说明

**1. 屋顶构造：**屋顶构造一：（由上到下）

碎石、卵石混凝土(ρ=2300) 40mm＋挤塑聚苯乙烯泡沫塑料（带表皮） 20mm＋水泥砂浆 20mm＋加气混凝土、泡沫混凝土(ρ=700) 80mm＋钢筋混凝土 120mm＋石灰砂浆 20mm

**2. 外墙：**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. 热桥柱：**热桥柱构造一：（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

**4. 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

**5. 幕墙：**普通铝合金窗+Low-E中空玻璃：

传热系数3.500W/m^2.K，自身遮阳系数0.300

**6. 天窗：**普通铝合金窗+Low-E中空玻璃：

传热系数3.500W/m^2.K，自身遮阳系数0.300

**7. 外窗：**普通铝合金窗+Low-E中空玻璃：

传热系数3.500W/m^2.K，自身遮阳系数0.300

# 体形系数

|  |  |
| --- | --- |
| 外表面积 | 22949.79 |
| 建筑体积 | 128777.63 |
| 体形系数 | 0.18 |

# 窗墙比

## 窗墙比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 朝向 | 立面 | 窗面积(㎡) | 墙面积(㎡) | 窗墙比 |
| 南向 | 立面3 | 56.93 | 203.37 | 0.28 |
| 北向 | 立面4 | 973.73 | 4830.61 | 0.20 |
| 东向 | 立面1 | 668.16 | 1867.24 | 0.36 |
| 西向 | 立面2 | 942.20 | 3243.01 | 0.29 |
| 平均 |  | 2641.02 | 10144.24 | 0.26 |

## 外窗表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 朝向 | 编号 | 尺寸 | 楼层 | 数量 | 单个面积 （㎡） | 合计面积 （㎡） |
| 南向 56.93 |  | 1.53×4.80 | 7 | 4 | 7.35 | 29.39 |
|  | 1.56×4.80 | 7 | 2 | 7.47 | 14.94 |
| c1815 | 1.80×1.50 | 1 | 3 | 2.70 | 8.10 |
| c3015 | 3.00×1.50 | 2 | 1 | 4.50 | 4.50 |
| 北向 973.73 |  | 7.59×3.10 | 1~2 | 3 | 23.53 | 70.59 |
|  | 2.14×3.10 | 1~2 | 2 | 6.65 | 13.29 |
|  | 2.46×3.10 | 1 | 1 | 7.63 | 7.63 |
|  | 2.93×3.10 | 1 | 1 | 9.09 | 9.09 |
|  | 1.53×3.10 | 1 | 2 | 4.75 | 9.49 |
|  | 11.28×3.10 | 2 | 1 | 34.96 | 34.96 |
|  | 2.15×4.60 | 3 | 1 | 9.88 | 9.88 |
|  | 2.49×4.60 | 3 | 1 | 11.45 | 11.45 |
|  | 2.51×4.60 | 3 | 1 | 11.55 | 11.55 |
|  | 2.17×4.60 | 3 | 1 | 9.99 | 9.99 |
|  | 15.18×4.60 | 3 | 1 | 69.81 | 69.81 |
|  | 3.34×4.60 | 3 | 1 | 15.34 | 15.34 |
|  | 7.53×4.30 | 6 | 1 | 32.38 | 32.38 |
|  | 7.57×4.30 | 6 | 1 | 32.55 | 32.55 |
|  | 4.71×4.30 | 6 | 1 | 20.23 | 20.23 |
|  | 25.17×4.80 | 7 | 1 | 120.82 | 120.82 |
|  | 1.48×4.80 | 7 | 2 | 7.09 | 14.18 |
|  | 10.15×4.80 | 7 | 1 | 48.71 | 48.71 |
|  | 1.53×4.80 | 7 | 2 | 7.35 | 14.70 |
|  | 9.95×4.80 | 7 | 1 | 47.74 | 47.74 |
|  | 1.41×4.80 | 7 | 1 | 6.79 | 6.79 |
|  | 11.59×4.80 | 7 | 1 | 55.63 | 55.63 |
| C0910 | 0.90×1.00 | 1 | 4 | 0.90 | 3.60 |
| C0915 | 0.90×1.50 | 4 | 1 | 1.35 | 1.35 |
| C1118 | 1.06×1.80 | 1,3~5 | 4 | 1.90 | 7.60 |
| C1214 | 1.20×1.40 | 4~5 | 4 | 1.68 | 6.72 |
| C1506 | 1.50×0.60 | 1 | 3 | 0.90 | 2.70 |
| C1509 | 1.50×1.90 | 2 | 2 | 2.85 | 5.70 |
| c1509 | 1.50×0.90 | 2 | 1 | 1.35 | 1.35 |
| C1515 | 1.50×1.50 | 1,4 | 4 | 2.25 | 9.00 |
| C1815 | 1.80×1.50 | 3~6 | 7 | 2.70 | 18.90 |
| C1821 | 1.80×2.10 | 4 | 1 | 3.78 | 3.78 |
| C1824 | 1.80×2.40 | 1 | 1 | 4.32 | 4.32 |
| C2121 | 2.10×2.10 | 6 | 2 | 4.41 | 8.82 |
| C2406 | 2.40×0.60 | 1 | 2 | 1.44 | 2.88 |
| C2409 | 2.40×0.90 | 2 | 2 | 2.16 | 4.32 |
| c2421 | 2.40×2.10 | 2~4 | 19 | 5.04 | 95.76 |
| C2427 | 2.40×2.70 | 1 | 1 | 6.48 | 6.48 |
| c3015 | 3.00×1.50 | 2 | 1 | 4.50 | 4.50 |
| c3024 | 3.00×2.40 | 2,5 | 5 | 7.20 | 36.00 |
| C3614 | 3.60×1.40 | 2 | 4 | 5.04 | 20.16 |
| C3628 | 3.60×2.80 | 1 | 4 | 10.08 | 40.32 |
| C5414 | 5.40×1.40 | 2 | 1 | 7.56 | 7.56 |
| C5428 | 5.40×2.80 | 1 | 1 | 15.12 | 15.12 |
| 东向 668.16 |  | 1.40×3.10 | 1~2 | 4 | 4.34 | 17.35 |
|  | 2.83×3.10 | 1 | 1 | 8.77 | 8.77 |
|  | 3.20×3.10 | 1 | 2 | 9.93 | 19.87 |
|  | 2.92×4.60 | 3 | 4 | 13.43 | 53.72 |
|  | 3.34×4.60 | 3 | 1 | 15.34 | 15.34 |
|  | 2.92×3.60 | 4 | 4 | 10.51 | 42.04 |
|  | 2.64×3.60 | 4 | 6 | 9.49 | 56.92 |
|  | 2.10×0.90 | 4 | 3 | 1.89 | 5.67 |
|  | 2.10×0.60 | 4 | 3 | 1.26 | 3.78 |
|  | 3.34×3.60 | 4 | 1 | 12.01 | 12.01 |
|  | 7.37×4.30 | 5 | 1 | 31.69 | 31.69 |
|  | 7.37×4.30 | 5~6 | 3 | 31.69 | 95.07 |
|  | 2.92×4.30 | 5~6 | 8 | 12.55 | 100.43 |
|  | 3.34×4.30 | 6 | 1 | 14.34 | 14.34 |
|  | 6.45×4.80 | 7 | 1 | 30.97 | 30.97 |
|  | 14.20×4.80 | 7 | 1 | 68.16 | 68.16 |
|  | 1.53×4.80 | 7 | 2 | 7.35 | 14.70 |
| C0910 | 0.90×1.00 | 1 | 2 | 0.90 | 1.80 |
| C0910 | 0.90×1.00 | 1 | 1 | 0.90 | 0.90 |
| C1214 | 1.20×1.40 | 3~6 | 8 | 1.68 | 13.44 |
| c1515 | 1.50×1.50 | 1 | 1 | 2.25 | 2.25 |
| C2121 | 2.10×2.10 | 4,6 | 5 | 4.41 | 22.05 |
| C2421 | 2.40×2.10 | 3~4 | 5 | 5.04 | 25.20 |
| c3015 | 3.00×1.50 | 2 | 1 | 4.50 | 4.50 |
| c3024 | 3.00×2.40 | 2 | 1 | 7.20 | 7.20 |
| 西向 942.20 |  | 2.02×3.10 | 1 | 1 | 6.25 | 6.25 |
|  | 3.60×0.30 | 1 | 5 | 1.08 | 5.40 |
|  | 2.19×3.10 | 1 | 1 | 6.77 | 6.77 |
|  | 2.08×3.10 | 1 | 1 | 6.43 | 6.43 |
|  | 2.13×3.10 | 1 | 1 | 6.59 | 6.59 |
|  | 2.10×3.10 | 1 | 1 | 6.51 | 6.51 |
|  | 2.10×3.10 | 1 | 1 | 6.51 | 6.51 |
|  | 2.19×3.10 | 1 | 1 | 6.78 | 6.78 |
|  | 2.01×3.10 | 1 | 1 | 6.24 | 6.24 |
|  | 2.32×3.10 | 1 | 1 | 7.18 | 7.18 |
|  | 1.88×3.10 | 1 | 1 | 5.84 | 5.84 |
|  | 2.09×3.10 | 1 | 1 | 6.48 | 6.48 |
|  | 2.11×3.10 | 1 | 1 | 6.54 | 6.54 |
|  | 7.57×4.60 | 3 | 3 | 34.82 | 104.47 |
|  | 6.10×4.60 | 3 | 1 | 28.04 | 28.04 |
|  | 3.30×1.50 | 3 | 1 | 4.95 | 4.95 |
|  | 5.78×4.60 | 3 | 1 | 26.57 | 26.57 |
|  | 3.93×4.60 | 3 | 1 | 18.08 | 18.08 |
|  | 2.64×3.60 | 4 | 1 | 9.49 | 9.49 |
|  | 2.10×0.90 | 4 | 4 | 1.89 | 7.56 |
|  | 2.10×0.60 | 4 | 4 | 1.26 | 5.04 |
|  | 2.52×3.60 | 4 | 1 | 9.07 | 9.07 |
|  | 0.72×3.60 | 4 | 1 | 2.59 | 2.59 |
|  | 2.09×3.60 | 4 | 1 | 7.51 | 7.51 |
|  | 2.25×3.60 | 4 | 1 | 8.10 | 8.10 |
|  | 2.59×3.60 | 4 | 2 | 9.31 | 18.61 |
|  | 2.89×3.60 | 4 | 2 | 10.39 | 20.77 |
|  | 5.78×3.60 | 4 | 1 | 20.79 | 20.79 |
|  | 3.30×0.50 | 4 | 1 | 1.65 | 1.65 |
|  | 6.10×3.60 | 4 | 1 | 21.94 | 21.94 |
|  | 6.44×4.30 | 6 | 1 | 27.67 | 27.67 |
|  | 0.72×4.30 | 6 | 1 | 3.10 | 3.10 |
|  | 7.26×4.30 | 6 | 1 | 31.20 | 31.20 |
|  | 1.53×4.80 | 7 | 2 | 7.35 | 14.70 |
|  | 25.16×4.80 | 7 | 1 | 120.75 | 120.75 |
|  | 8.84×4.80 | 7 | 1 | 42.45 | 42.45 |
| C0914 | 0.90×1.40 | 3,6 | 4 | 1.26 | 5.04 |
| C1118 | 1.06×1.80 | 1,3~5 | 4 | 1.90 | 7.60 |
| c1509 | 1.50×0.90 | 2 | 4 | 1.35 | 5.40 |
| c1515 | 1.50×1.50 | 1 | 6 | 2.25 | 13.50 |
| C1521 | 1.50×2.10 | 4 | 12 | 3.15 | 37.80 |
| c1815 | 1.80×1.50 | 1 | 1 | 2.70 | 2.70 |
| C2121 | 2.10×2.10 | 4~6 | 15 | 4.41 | 66.15 |
| C2421 | 2.40×2.10 | 3 | 6 | 5.04 | 30.24 |
| C2527 | 2.47×2.70 | 1 | 1 | 6.66 | 6.66 |
| C3614 | 3.60×1.40 | 2 | 7 | 5.04 | 35.28 |
| C3628 | 3.60×2.80 | 1 | 7 | 10.08 | 70.56 |
| C5414 | 5.40×1.40 | 2 | 1 | 7.56 | 7.56 |
| C5428 | 5.40×2.80 | 1 | 1 | 15.12 | 15.12 |

# 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 | 立面3 | 0.28 | c3015 | 0.80 | 0.60 |
| 北向 | 立面4 | 0.20 | C1815 | 0.80 | 0.60 |
| 东向 | 立面1 | 0.36 | C1214 | 0.80 | 0.60 |
| 西向 | 立面2 | 0.29 | C2121 | 0.80 | 0.60 |
| 标准依据 | | 《公共建筑节能设计标准》(GB50189-2015)第3.2.4条 | | | |
| 标准要求 | | 当窗墙面积比小于0.40时，玻璃的可见光透射比不应当小于0.6;当窗墙面积比大于等于0.40时，玻璃的可见光透射比不应当小于0.4; | | | |
| 结论 | | 满足 | | | |

# 天窗

## 天窗屋顶比

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 房间 | 天窗编号 | 天窗面积（㎡） | 屋顶面积（㎡） | 面积比 |
| 7001 |  | 885.49 | 885.49 | 1.00 |
| 整栋建筑 | | 885.49 | 8030.96 | 0.11 |

## 天窗类型

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 序号 | 构造名称 | 构造编号 | 传热系数 | 自遮阳系数 | 备注 |
| 1 | 普通铝合金窗+Low-E中空玻璃 | 66 | 3.50 | 0.30 |  |
| 平均 | |  | 3.50 | 0.30 |  |

# 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 |
| 碎石、卵石混凝土(ρ=2300) | 40 | 1.510 | 15.360 | 1.00 | 0.026 | 0.407 |
| 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 |
| 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 |
| 石灰砂浆 | 20 | 0.810 | 10.070 | 1.00 | 0.025 | 0.249 |
| 各层之和∑ | 300 | － | － | － | 1.142 | 3.691 |
| 外表面太阳辐射吸收系数 | 0.75[默认] | | | | | |
| 传热系数K=1/(0.16+∑R) | 0.77 | | | | | |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.4.1条 | | | | | |
| 标准要求 | K<=0.9 | | | | | |
| 结论 | 满足 | | | | | |

# 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[默认] | | | | | |
| 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[默认] | | | | | |
| 传热系数K=1/(0.16+∑R) | 1.11 | | | | | |

## 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 | 141.03 | 0.963 | 1.11 | 2.94 | 0.75 |
| 热桥柱构造一 | 热桥柱 | 5.42 | 0.037 | 1.11 | 2.94 | 0.75 |
| 合计 |  | 146.44 | 1.000 | 1.11 | 2.94 | 0.75 |

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 | 3379.58 | 0.898 | 1.11 | 2.94 | 0.75 |
| 热桥柱构造一 | 热桥柱 | 384.88 | 0.102 | 1.11 | 2.94 | 0.75 |
| 合计 |  | 3764.46 | 1.000 | 1.11 | 2.94 | 0.75 |

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 | 1025.88 | 0.882 | 1.11 | 2.94 | 0.75 |
| 热桥柱构造一 | 热桥柱 | 137.60 | 0.118 | 1.11 | 2.94 | 0.75 |
| 合计 |  | 1163.49 | 1.000 | 1.11 | 2.94 | 0.75 |

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 | 2002.61 | 0.898 | 1.11 | 2.94 | 0.75 |
| 热桥柱构造一 | 热桥柱 | 227.20 | 0.102 | 1.11 | 2.94 | 0.75 |
| 合计 |  | 2229.81 | 1.000 | 1.11 | 2.94 | 0.75 |

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 | 6549.09 | 0.897 | 1.11 | 2.94 | 0.75 |
| 热桥柱构造一 | 热桥柱 | 755.10 | 0.103 | 1.11 | 2.94 | 0.75 |
| 合计 |  | 7304.19 | 1.000 | 1.11 | 2.94 | 0.75 |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.4.1条 | | | | | |
| 标准要求 | K<=1.5 | | | | | |
| 结论 | 满足 | | | | | |

# 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 | 普通铝合金窗+Low-E中空玻璃 | 65 | 3.50 | 0.26 | 1.000 |  |
| 2 | 普通铝合金窗+Low-E中空玻璃 | 18 | 3.50 | 0.26 | 0.800 |  |

## 外遮阳类型

本工程无此内容

## 平均传热系数

1. 立面1(东向)：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1~2 | 4 | 4.338 | 17.351 | 65 | 3.500 |
| 2 |  | 1 | 1 | 8.773 | 8.773 | 65 | 3.500 |
| 3 |  | 1 | 2 | 9.935 | 19.869 | 65 | 3.500 |
| 4 |  | 3 | 4 | 13.429 | 53.716 | 65 | 3.500 |
| 5 |  | 3 | 1 | 15.341 | 15.341 | 65 | 3.500 |
| 6 |  | 4 | 4 | 10.510 | 42.038 | 65 | 3.500 |
| 7 |  | 4 | 6 | 9.486 | 56.916 | 65 | 3.500 |
| 8 |  | 4 | 3 | 1.890 | 5.670 | 65 | 3.500 |
| 9 |  | 4 | 3 | 1.260 | 3.780 | 65 | 3.500 |
| 10 |  | 4 | 1 | 12.006 | 12.006 | 65 | 3.500 |
| 11 |  | 5 | 1 | 31.693 | 31.693 | 65 | 3.500 |
| 12 |  | 5~6 | 3 | 31.691 | 95.073 | 65 | 3.500 |
| 13 |  | 5~6 | 8 | 12.553 | 100.425 | 65 | 3.500 |
| 14 |  | 6 | 1 | 14.341 | 14.341 | 65 | 3.500 |
| 15 |  | 7 | 1 | 30.973 | 30.973 | 65 | 3.500 |
| 16 |  | 7 | 1 | 68.160 | 68.160 | 65 | 3.500 |
| 17 |  | 7 | 2 | 7.348 | 14.695 | 65 | 3.500 |
| 18 | C0910 | 1 | 2 | 0.900 | 1.800 | 18 | 3.500 |
| 19 | C0910 | 1 | 1 | 0.902 | 0.902 | 18 | 3.500 |
| 20 | C1214 | 3~6 | 8 | 1.680 | 13.440 | 18 | 3.500 |
| 21 | c1515 | 1 | 1 | 2.250 | 2.250 | 18 | 3.500 |
| 22 | C2121 | 4,6 | 5 | 4.410 | 22.050 | 18 | 3.500 |
| 23 | C2421 | 3~4 | 5 | 5.040 | 25.200 | 18 | 3.500 |
| 24 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 3.500 |
| 25 | c3024 | 2 | 1 | 7.200 | 7.200 | 18 | 3.500 |
| 朝向总面积(㎡) | | | 668.162 | 朝向平均传热系数 | | | 3.500 |

2. 立面2(西向)：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1 | 1 | 6.247 | 6.247 | 65 | 3.500 |
| 2 |  | 1 | 5 | 1.080 | 5.400 | 65 | 3.500 |
| 3 |  | 1 | 1 | 6.774 | 6.774 | 65 | 3.500 |
| 4 |  | 1 | 1 | 6.433 | 6.433 | 65 | 3.500 |
| 5 |  | 1 | 1 | 6.588 | 6.588 | 65 | 3.500 |
| 6 |  | 1 | 1 | 6.513 | 6.513 | 65 | 3.500 |
| 7 |  | 1 | 1 | 6.507 | 6.507 | 65 | 3.500 |
| 8 |  | 1 | 1 | 6.783 | 6.783 | 65 | 3.500 |
| 9 |  | 1 | 1 | 6.237 | 6.237 | 65 | 3.500 |
| 10 |  | 1 | 1 | 7.183 | 7.183 | 65 | 3.500 |
| 11 |  | 1 | 1 | 5.837 | 5.837 | 65 | 3.500 |
| 12 |  | 1 | 1 | 6.479 | 6.479 | 65 | 3.500 |
| 13 |  | 1 | 1 | 6.541 | 6.541 | 65 | 3.500 |
| 14 |  | 3 | 3 | 34.822 | 104.466 | 65 | 3.500 |
| 15 |  | 3 | 1 | 28.037 | 28.037 | 65 | 3.500 |
| 16 |  | 3 | 1 | 4.950 | 4.950 | 65 | 3.500 |
| 17 |  | 3 | 1 | 26.565 | 26.565 | 65 | 3.500 |
| 18 |  | 3 | 1 | 18.078 | 18.078 | 65 | 3.500 |
| 19 |  | 4 | 1 | 9.486 | 9.486 | 65 | 3.500 |
| 20 |  | 4 | 4 | 1.890 | 7.560 | 65 | 3.500 |
| 21 |  | 4 | 4 | 1.260 | 5.040 | 65 | 3.500 |
| 22 |  | 4 | 1 | 9.072 | 9.072 | 65 | 3.500 |
| 23 |  | 4 | 1 | 2.592 | 2.592 | 65 | 3.500 |
| 24 |  | 4 | 1 | 7.506 | 7.506 | 65 | 3.500 |
| 25 |  | 4 | 1 | 8.100 | 8.100 | 65 | 3.500 |
| 26 |  | 4 | 2 | 9.306 | 18.612 | 65 | 3.500 |
| 27 |  | 4 | 2 | 10.386 | 20.772 | 65 | 3.500 |
| 28 |  | 4 | 1 | 20.790 | 20.790 | 65 | 3.500 |
| 29 |  | 4 | 1 | 1.650 | 1.650 | 65 | 3.500 |
| 30 |  | 4 | 1 | 21.942 | 21.942 | 65 | 3.500 |
| 31 |  | 6 | 1 | 27.671 | 27.671 | 65 | 3.500 |
| 32 |  | 6 | 1 | 3.096 | 3.096 | 65 | 3.500 |
| 33 |  | 6 | 1 | 31.197 | 31.197 | 65 | 3.500 |
| 34 |  | 7 | 2 | 7.348 | 14.695 | 65 | 3.500 |
| 35 |  | 7 | 1 | 120.754 | 120.754 | 65 | 3.500 |
| 36 |  | 7 | 1 | 42.446 | 42.446 | 65 | 3.500 |
| 37 | C0914 | 3,6 | 4 | 1.260 | 5.040 | 18 | 3.500 |
| 38 | C1118 | 1,3~5 | 4 | 1.899 | 7.596 | 18 | 3.500 |
| 39 | c1509 | 2 | 4 | 1.350 | 5.400 | 18 | 3.500 |
| 40 | c1515 | 1 | 6 | 2.250 | 13.500 | 18 | 3.500 |
| 41 | C1521 | 4 | 12 | 3.150 | 37.800 | 18 | 3.500 |
| 42 | c1815 | 1 | 1 | 2.700 | 2.700 | 18 | 3.500 |
| 43 | C2121 | 4~6 | 15 | 4.410 | 66.150 | 18 | 3.500 |
| 44 | C2421 | 3 | 6 | 5.040 | 30.240 | 18 | 3.500 |
| 45 | C2527 | 1 | 1 | 6.656 | 6.656 | 18 | 3.500 |
| 46 | C3614 | 2 | 7 | 5.040 | 35.280 | 18 | 3.500 |
| 47 | C3628 | 1 | 7 | 10.080 | 70.560 | 18 | 3.500 |
| 48 | C5414 | 2 | 1 | 7.560 | 7.560 | 18 | 3.500 |
| 49 | C5428 | 1 | 1 | 15.120 | 15.120 | 18 | 3.500 |
| 朝向总面积(㎡) | | | 942.198 | 朝向平均传热系数 | | | 3.500 |

3. 立面3(南向)：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 7 | 4 | 7.348 | 29.390 | 65 | 3.500 |
| 2 |  | 7 | 2 | 7.470 | 14.940 | 65 | 3.500 |
| 3 | c1815 | 1 | 3 | 2.700 | 8.100 | 18 | 3.500 |
| 4 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 3.500 |
| 朝向总面积(㎡) | | | 56.930 | 朝向平均传热系数 | | | 3.500 |

4. 立面4(北向)：

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1~2 | 3 | 23.529 | 70.587 | 65 | 3.500 |
| 2 |  | 1~2 | 2 | 6.646 | 13.293 | 65 | 3.500 |
| 3 |  | 1 | 1 | 7.629 | 7.629 | 65 | 3.500 |
| 4 |  | 1 | 1 | 9.091 | 9.091 | 65 | 3.500 |
| 5 |  | 1 | 2 | 4.745 | 9.491 | 65 | 3.500 |
| 6 |  | 2 | 1 | 34.960 | 34.960 | 65 | 3.500 |
| 7 |  | 3 | 1 | 9.880 | 9.880 | 65 | 3.500 |
| 8 |  | 3 | 1 | 11.446 | 11.446 | 65 | 3.500 |
| 9 |  | 3 | 1 | 11.555 | 11.555 | 65 | 3.500 |
| 10 |  | 3 | 1 | 9.993 | 9.993 | 65 | 3.500 |
| 11 |  | 3 | 1 | 69.805 | 69.805 | 65 | 3.500 |
| 12 |  | 3 | 1 | 15.341 | 15.341 | 65 | 3.500 |
| 13 |  | 6 | 1 | 32.379 | 32.379 | 65 | 3.500 |
| 14 |  | 6 | 1 | 32.551 | 32.551 | 65 | 3.500 |
| 15 |  | 6 | 1 | 20.232 | 20.232 | 65 | 3.500 |
| 16 |  | 7 | 1 | 120.819 | 120.819 | 65 | 3.500 |
| 17 |  | 7 | 2 | 7.090 | 14.181 | 65 | 3.500 |
| 18 |  | 7 | 1 | 48.712 | 48.712 | 65 | 3.500 |
| 19 |  | 7 | 2 | 7.348 | 14.695 | 65 | 3.500 |
| 20 |  | 7 | 1 | 47.736 | 47.736 | 65 | 3.500 |
| 21 |  | 7 | 1 | 6.788 | 6.788 | 65 | 3.500 |
| 22 |  | 7 | 1 | 55.634 | 55.634 | 65 | 3.500 |
| 23 | C0910 | 1 | 4 | 0.900 | 3.600 | 18 | 3.500 |
| 24 | C0915 | 4 | 1 | 1.350 | 1.350 | 18 | 3.500 |
| 25 | C1118 | 1,3~5 | 4 | 1.899 | 7.596 | 18 | 3.500 |
| 26 | C1214 | 4~5 | 4 | 1.680 | 6.720 | 18 | 3.500 |
| 27 | C1506 | 1 | 3 | 0.900 | 2.700 | 18 | 3.500 |
| 28 | C1509 | 2 | 2 | 2.850 | 5.700 | 18 | 3.500 |
| 29 | c1509 | 2 | 1 | 1.350 | 1.350 | 18 | 3.500 |
| 30 | C1515 | 1,4 | 4 | 2.250 | 9.000 | 18 | 3.500 |
| 31 | C1815 | 3~6 | 7 | 2.700 | 18.900 | 18 | 3.500 |
| 32 | C1821 | 4 | 1 | 3.780 | 3.780 | 18 | 3.500 |
| 33 | C1824 | 1 | 1 | 4.320 | 4.320 | 18 | 3.500 |
| 34 | C2121 | 6 | 2 | 4.410 | 8.820 | 18 | 3.500 |
| 35 | C2406 | 1 | 2 | 1.440 | 2.880 | 18 | 3.500 |
| 36 | C2409 | 2 | 2 | 2.160 | 4.320 | 18 | 3.500 |
| 37 | c2421 | 2~4 | 19 | 5.040 | 95.760 | 18 | 3.500 |
| 38 | C2427 | 1 | 1 | 6.480 | 6.480 | 18 | 3.500 |
| 39 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 3.500 |
| 40 | c3024 | 2,5 | 5 | 7.200 | 36.000 | 18 | 3.500 |
| 41 | C3614 | 2 | 4 | 5.040 | 20.160 | 18 | 3.500 |
| 42 | C3628 | 1 | 4 | 10.080 | 40.320 | 18 | 3.500 |
| 43 | C5414 | 2 | 1 | 7.560 | 7.560 | 18 | 3.500 |
| 44 | C5428 | 1 | 1 | 15.120 | 15.120 | 18 | 3.500 |
| 朝向总面积(㎡) | | | 973.733 | 朝向平均传热系数 | | | 3.500 |

## 综合太阳得热系数

1. 南向：

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 7 | 4 | 7.348 | 29.390 | 65 | 0.261 |  | 1.000 | 0.261 |
| 2 |  | 7 | 2 | 7.470 | 14.940 | 65 | 0.261 |  | 1.000 | 0.261 |
| 3 | c1815 | 1 | 3 | 2.700 | 8.100 | 18 | 0.261 |  | 1.000 | 0.261 |
| 4 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 0.261 |  | 1.000 | 0.261 |
| 朝向总面积(㎡) | | | | | 56.930 | 综合太阳得热系数 | | | 1.000 | 0.261 |

2. 北向：

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1~2 | 3 | 23.529 | 70.587 | 65 | 0.261 |  | 1.000 | 0.261 |
| 2 |  | 1~2 | 2 | 6.646 | 13.293 | 65 | 0.261 |  | 1.000 | 0.261 |
| 3 |  | 1 | 1 | 7.629 | 7.629 | 65 | 0.261 |  | 1.000 | 0.261 |
| 4 |  | 1 | 1 | 9.091 | 9.091 | 65 | 0.261 |  | 1.000 | 0.261 |
| 5 |  | 1 | 2 | 4.745 | 9.491 | 65 | 0.261 |  | 1.000 | 0.261 |
| 6 |  | 2 | 1 | 34.960 | 34.960 | 65 | 0.261 |  | 1.000 | 0.261 |
| 7 |  | 3 | 1 | 9.880 | 9.880 | 65 | 0.261 |  | 1.000 | 0.261 |
| 8 |  | 3 | 1 | 11.446 | 11.446 | 65 | 0.261 |  | 1.000 | 0.261 |
| 9 |  | 3 | 1 | 11.555 | 11.555 | 65 | 0.261 |  | 1.000 | 0.261 |
| 10 |  | 3 | 1 | 9.993 | 9.993 | 65 | 0.261 |  | 1.000 | 0.261 |
| 11 |  | 3 | 1 | 69.805 | 69.805 | 65 | 0.261 |  | 1.000 | 0.261 |
| 12 |  | 3 | 1 | 15.341 | 15.341 | 65 | 0.261 |  | 1.000 | 0.261 |
| 13 |  | 6 | 1 | 32.379 | 32.379 | 65 | 0.261 |  | 1.000 | 0.261 |
| 14 |  | 6 | 1 | 32.551 | 32.551 | 65 | 0.261 |  | 1.000 | 0.261 |
| 15 |  | 6 | 1 | 20.232 | 20.232 | 65 | 0.261 |  | 1.000 | 0.261 |
| 16 |  | 7 | 1 | 120.819 | 120.819 | 65 | 0.261 |  | 1.000 | 0.261 |
| 17 |  | 7 | 2 | 7.090 | 14.181 | 65 | 0.261 |  | 1.000 | 0.261 |
| 18 |  | 7 | 1 | 48.712 | 48.712 | 65 | 0.261 |  | 1.000 | 0.261 |
| 19 |  | 7 | 2 | 7.348 | 14.695 | 65 | 0.261 |  | 1.000 | 0.261 |
| 20 |  | 7 | 1 | 47.736 | 47.736 | 65 | 0.261 |  | 1.000 | 0.261 |
| 21 |  | 7 | 1 | 6.788 | 6.788 | 65 | 0.261 |  | 1.000 | 0.261 |
| 22 |  | 7 | 1 | 55.634 | 55.634 | 65 | 0.261 |  | 1.000 | 0.261 |
| 23 | C0910 | 1 | 4 | 0.900 | 3.600 | 18 | 0.261 |  | 1.000 | 0.261 |
| 24 | C0915 | 4 | 1 | 1.350 | 1.350 | 18 | 0.261 |  | 1.000 | 0.261 |
| 25 | C1118 | 1,3~5 | 4 | 1.899 | 7.596 | 18 | 0.261 |  | 1.000 | 0.261 |
| 26 | C1214 | 4~5 | 4 | 1.680 | 6.720 | 18 | 0.261 |  | 1.000 | 0.261 |
| 27 | C1506 | 1 | 3 | 0.900 | 2.700 | 18 | 0.261 |  | 1.000 | 0.261 |
| 28 | C1509 | 2 | 2 | 2.850 | 5.700 | 18 | 0.261 |  | 1.000 | 0.261 |
| 29 | c1509 | 2 | 1 | 1.350 | 1.350 | 18 | 0.261 |  | 1.000 | 0.261 |
| 30 | C1515 | 1,4 | 4 | 2.250 | 9.000 | 18 | 0.261 |  | 1.000 | 0.261 |
| 31 | C1815 | 3~6 | 7 | 2.700 | 18.900 | 18 | 0.261 |  | 1.000 | 0.261 |
| 32 | C1821 | 4 | 1 | 3.780 | 3.780 | 18 | 0.261 |  | 1.000 | 0.261 |
| 33 | C1824 | 1 | 1 | 4.320 | 4.320 | 18 | 0.261 |  | 1.000 | 0.261 |
| 34 | C2121 | 6 | 2 | 4.410 | 8.820 | 18 | 0.261 |  | 1.000 | 0.261 |
| 35 | C2406 | 1 | 2 | 1.440 | 2.880 | 18 | 0.261 |  | 1.000 | 0.261 |
| 36 | C2409 | 2 | 2 | 2.160 | 4.320 | 18 | 0.261 |  | 1.000 | 0.261 |
| 37 | c2421 | 2~4 | 19 | 5.040 | 95.760 | 18 | 0.261 |  | 1.000 | 0.261 |
| 38 | C2427 | 1 | 1 | 6.480 | 6.480 | 18 | 0.261 |  | 1.000 | 0.261 |
| 39 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 0.261 |  | 1.000 | 0.261 |
| 40 | c3024 | 2,5 | 5 | 7.200 | 36.000 | 18 | 0.261 |  | 1.000 | 0.261 |
| 41 | C3614 | 2 | 4 | 5.040 | 20.160 | 18 | 0.261 |  | 1.000 | 0.261 |
| 42 | C3628 | 1 | 4 | 10.080 | 40.320 | 18 | 0.261 |  | 1.000 | 0.261 |
| 43 | C5414 | 2 | 1 | 7.560 | 7.560 | 18 | 0.261 |  | 1.000 | 0.261 |
| 44 | C5428 | 1 | 1 | 15.120 | 15.120 | 18 | 0.261 |  | 1.000 | 0.261 |
| 朝向总面积(㎡) | | | | | 973.733 | 综合太阳得热系数 | | | 1.000 | 0.261 |

3. 东向：

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1~2 | 4 | 4.338 | 17.351 | 65 | 0.261 |  | 1.000 | 0.261 |
| 2 |  | 1 | 1 | 8.773 | 8.773 | 65 | 0.261 |  | 1.000 | 0.261 |
| 3 |  | 1 | 2 | 9.935 | 19.869 | 65 | 0.261 |  | 1.000 | 0.261 |
| 4 |  | 3 | 4 | 13.429 | 53.716 | 65 | 0.261 |  | 1.000 | 0.261 |
| 5 |  | 3 | 1 | 15.341 | 15.341 | 65 | 0.261 |  | 1.000 | 0.261 |
| 6 |  | 4 | 4 | 10.510 | 42.038 | 65 | 0.261 |  | 1.000 | 0.261 |
| 7 |  | 4 | 6 | 9.486 | 56.916 | 65 | 0.261 |  | 1.000 | 0.261 |
| 8 |  | 4 | 3 | 1.890 | 5.670 | 65 | 0.261 |  | 1.000 | 0.261 |
| 9 |  | 4 | 3 | 1.260 | 3.780 | 65 | 0.261 |  | 1.000 | 0.261 |
| 10 |  | 4 | 1 | 12.006 | 12.006 | 65 | 0.261 |  | 1.000 | 0.261 |
| 11 |  | 5 | 1 | 31.693 | 31.693 | 65 | 0.261 |  | 1.000 | 0.261 |
| 12 |  | 5~6 | 3 | 31.691 | 95.073 | 65 | 0.261 |  | 1.000 | 0.261 |
| 13 |  | 5~6 | 8 | 12.553 | 100.425 | 65 | 0.261 |  | 1.000 | 0.261 |
| 14 |  | 6 | 1 | 14.341 | 14.341 | 65 | 0.261 |  | 1.000 | 0.261 |
| 15 |  | 7 | 1 | 30.973 | 30.973 | 65 | 0.261 |  | 1.000 | 0.261 |
| 16 |  | 7 | 1 | 68.160 | 68.160 | 65 | 0.261 |  | 1.000 | 0.261 |
| 17 |  | 7 | 2 | 7.348 | 14.695 | 65 | 0.261 |  | 1.000 | 0.261 |
| 18 | C0910 | 1 | 2 | 0.900 | 1.800 | 18 | 0.261 |  | 1.000 | 0.261 |
| 19 | C0910 | 1 | 1 | 0.902 | 0.902 | 18 | 0.261 |  | 1.000 | 0.261 |
| 20 | C1214 | 3~6 | 8 | 1.680 | 13.440 | 18 | 0.261 |  | 1.000 | 0.261 |
| 21 | c1515 | 1 | 1 | 2.250 | 2.250 | 18 | 0.261 |  | 1.000 | 0.261 |
| 22 | C2121 | 4,6 | 5 | 4.410 | 22.050 | 18 | 0.261 |  | 1.000 | 0.261 |
| 23 | C2421 | 3~4 | 5 | 5.040 | 25.200 | 18 | 0.261 |  | 1.000 | 0.261 |
| 24 | c3015 | 2 | 1 | 4.500 | 4.500 | 18 | 0.261 |  | 1.000 | 0.261 |
| 25 | c3024 | 2 | 1 | 7.200 | 7.200 | 18 | 0.261 |  | 1.000 | 0.261 |
| 朝向总面积(㎡) | | | | | 668.162 | 综合太阳得热系数 | | | 1.000 | 0.261 |

4. 西向：

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 |  | 1 | 1 | 6.247 | 6.247 | 65 | 0.261 |  | 1.000 | 0.261 |
| 2 |  | 1 | 5 | 1.080 | 5.400 | 65 | 0.261 |  | 1.000 | 0.261 |
| 3 |  | 1 | 1 | 6.774 | 6.774 | 65 | 0.261 |  | 1.000 | 0.261 |
| 4 |  | 1 | 1 | 6.433 | 6.433 | 65 | 0.261 |  | 1.000 | 0.261 |
| 5 |  | 1 | 1 | 6.588 | 6.588 | 65 | 0.261 |  | 1.000 | 0.261 |
| 6 |  | 1 | 1 | 6.513 | 6.513 | 65 | 0.261 |  | 1.000 | 0.261 |
| 7 |  | 1 | 1 | 6.507 | 6.507 | 65 | 0.261 |  | 1.000 | 0.261 |
| 8 |  | 1 | 1 | 6.783 | 6.783 | 65 | 0.261 |  | 1.000 | 0.261 |
| 9 |  | 1 | 1 | 6.237 | 6.237 | 65 | 0.261 |  | 1.000 | 0.261 |
| 10 |  | 1 | 1 | 7.183 | 7.183 | 65 | 0.261 |  | 1.000 | 0.261 |
| 11 |  | 1 | 1 | 5.837 | 5.837 | 65 | 0.261 |  | 1.000 | 0.261 |
| 12 |  | 1 | 1 | 6.479 | 6.479 | 65 | 0.261 |  | 1.000 | 0.261 |
| 13 |  | 1 | 1 | 6.541 | 6.541 | 65 | 0.261 |  | 1.000 | 0.261 |
| 14 |  | 3 | 3 | 34.822 | 104.466 | 65 | 0.261 |  | 1.000 | 0.261 |
| 15 |  | 3 | 1 | 28.037 | 28.037 | 65 | 0.261 |  | 1.000 | 0.261 |
| 16 |  | 3 | 1 | 4.950 | 4.950 | 65 | 0.261 |  | 1.000 | 0.261 |
| 17 |  | 3 | 1 | 26.565 | 26.565 | 65 | 0.261 |  | 1.000 | 0.261 |
| 18 |  | 3 | 1 | 18.078 | 18.078 | 65 | 0.261 |  | 1.000 | 0.261 |
| 19 |  | 4 | 1 | 9.486 | 9.486 | 65 | 0.261 |  | 1.000 | 0.261 |
| 20 |  | 4 | 4 | 1.890 | 7.560 | 65 | 0.261 |  | 1.000 | 0.261 |
| 21 |  | 4 | 4 | 1.260 | 5.040 | 65 | 0.261 |  | 1.000 | 0.261 |
| 22 |  | 4 | 1 | 9.072 | 9.072 | 65 | 0.261 |  | 1.000 | 0.261 |
| 23 |  | 4 | 1 | 2.592 | 2.592 | 65 | 0.261 |  | 1.000 | 0.261 |
| 24 |  | 4 | 1 | 7.506 | 7.506 | 65 | 0.261 |  | 1.000 | 0.261 |
| 25 |  | 4 | 1 | 8.100 | 8.100 | 65 | 0.261 |  | 1.000 | 0.261 |
| 26 |  | 4 | 2 | 9.306 | 18.612 | 65 | 0.261 |  | 1.000 | 0.261 |
| 27 |  | 4 | 2 | 10.386 | 20.772 | 65 | 0.261 |  | 1.000 | 0.261 |
| 28 |  | 4 | 1 | 20.790 | 20.790 | 65 | 0.261 |  | 1.000 | 0.261 |
| 29 |  | 4 | 1 | 1.650 | 1.650 | 65 | 0.261 |  | 1.000 | 0.261 |
| 30 |  | 4 | 1 | 21.942 | 21.942 | 65 | 0.261 |  | 1.000 | 0.261 |
| 31 |  | 6 | 1 | 27.671 | 27.671 | 65 | 0.261 |  | 1.000 | 0.261 |
| 32 |  | 6 | 1 | 3.096 | 3.096 | 65 | 0.261 |  | 1.000 | 0.261 |
| 33 |  | 6 | 1 | 31.197 | 31.197 | 65 | 0.261 |  | 1.000 | 0.261 |
| 34 |  | 7 | 2 | 7.348 | 14.695 | 65 | 0.261 |  | 1.000 | 0.261 |
| 35 |  | 7 | 1 | 120.754 | 120.754 | 65 | 0.261 |  | 1.000 | 0.261 |
| 36 |  | 7 | 1 | 42.446 | 42.446 | 65 | 0.261 |  | 1.000 | 0.261 |
| 37 | C0914 | 3,6 | 4 | 1.260 | 5.040 | 18 | 0.261 |  | 1.000 | 0.261 |
| 38 | C1118 | 1,3~5 | 4 | 1.899 | 7.596 | 18 | 0.261 |  | 1.000 | 0.261 |
| 39 | c1509 | 2 | 4 | 1.350 | 5.400 | 18 | 0.261 |  | 1.000 | 0.261 |
| 40 | c1515 | 1 | 6 | 2.250 | 13.500 | 18 | 0.261 |  | 1.000 | 0.261 |
| 41 | C1521 | 4 | 12 | 3.150 | 37.800 | 18 | 0.261 |  | 1.000 | 0.261 |
| 42 | c1815 | 1 | 1 | 2.700 | 2.700 | 18 | 0.261 |  | 1.000 | 0.261 |
| 43 | C2121 | 4~6 | 15 | 4.410 | 66.150 | 18 | 0.261 |  | 1.000 | 0.261 |
| 44 | C2421 | 3 | 6 | 5.040 | 30.240 | 18 | 0.261 |  | 1.000 | 0.261 |
| 45 | C2527 | 1 | 1 | 6.656 | 6.656 | 18 | 0.261 |  | 1.000 | 0.261 |
| 46 | C3614 | 2 | 7 | 5.040 | 35.280 | 18 | 0.261 |  | 1.000 | 0.261 |
| 47 | C3628 | 1 | 7 | 10.080 | 70.560 | 18 | 0.261 |  | 1.000 | 0.261 |
| 48 | C5414 | 2 | 1 | 7.560 | 7.560 | 18 | 0.261 |  | 1.000 | 0.261 |
| 49 | C5428 | 1 | 1 | 15.120 | 15.120 | 18 | 0.261 |  | 1.000 | 0.261 |
| 朝向总面积(㎡) | | | | | 942.198 | 综合太阳得热系数 | | | 1.000 | 0.261 |

## 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 | 标准要求 | 结论 |
| 南向 | 立面3 | 56.93 | 3.50 | 0.26 | 0.28 | K(不要求), SHGC(不要求) | 满足 |
| 北向 | 立面4 | 973.73 | 3.50 | 0.26 | 0.20 | K(不要求), SHGC(不要求) | 满足 |
| 东向 | 立面1 | 668.16 | 3.50 | 0.26 | 0.36 | K(不要求), SHGC(不要求) | 满足 |
| 西向 | 立面2 | 942.20 | 3.50 | 0.26 | 0.29 | K(不要求), SHGC(不要求) | 满足 |
| 综合平均 |  | 2641.02 | 3.50 | 0.26 | 0.26 |  |  |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.4.1条 | | | | | | |
| 标准要求 | 单一立面窗墙比大于或等于0.40时，外窗传热系数和综合太阳得热系数应满足表3.4.1-3的要求 | | | | | | |
| 结论 | 满足 | | | | | | |

注：本表所统计的外窗包含凸窗。

# 有效通风换气面积

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 楼层 | 房间编号 | 房间面积（㎡） | | 立面面积（㎡） | 门窗编号 | 门窗面积（㎡） | 有效通风面积比 | 门窗类型 | 有效通风面积/外窗面积 | 有效通风面积/立面面积 | 结论 |
| 1 | 1001 | 204.04 | | 120.44 | C0910 | 0.90 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C1118 | 1.90 | 0.30 | 外窗 |
| C1118 | 1.90 | 0.30 | 外窗 |
| C0910 | 0.90 | 0.30 | 外窗 |
| C0910 | 0.90 | 0.30 | 外窗 |
| 1002 | 59.67 | | 30.67 | c1815 | 2.70 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| 1003 | 54.23 | | 36.72 | C1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| C1515 | 2.25 | 0.30 | 外窗 |
| 1004 | 51.87 | | 41.94 | c1815 | 2.70 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| 1005 | 17.14 | | 21.95 | c1815 | 2.70 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 1006 | 10.60 | | 9.83 | c1815 | 2.70 | 0.30 | 外窗 | 0.30 | 0.08 | 不适宜 |
| B1001 | 230.29 | | 201.08 | 未编号 | 6.65 | 0.30 | 幕墙 | 0.30 | 0.07 | 不适宜 |
| 未编号 | 4.34 | 0.30 | 幕墙 |
| 未编号 | 4.34 | 0.30 | 幕墙 |
| C0910 | 0.90 | 0.30 | 外窗 |
| C0910 | 0.90 | 0.30 | 外窗 |
| C1824 | 4.32 | 0.30 | 外窗 |
| 未编号 | 23.53 | 0.30 | 幕墙 |
| C1001 | 248.60 | | 170.38 | 未编号 | 23.53 | 0.30 | 幕墙 | － | 0.07 | 不适宜 |
| 未编号 | 9.09 | 0.30 | 幕墙 |
| 未编号 | 4.75 | 0.30 | 幕墙 |
| 未编号 | 4.75 | 0.30 | 幕墙 |
| C1002 | 192.71 | | 149.03 | 未编号 | 8.77 | 0.30 | 幕墙 | － | 0.07 | 不适宜 |
| 未编号 | 9.93 | 0.30 | 幕墙 |
| 未编号 | 9.93 | 0.30 | 幕墙 |
| 未编号 | 7.63 | 0.30 | 幕墙 |
| C1003 | 87.23 | | 57.32 | C2527 | 6.66 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| D1001 | 29.25 | | 61.52 | C2427 | 6.48 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| F1001 | 478.49 | | 191.56 | C0910 | 0.90 | 0.30 | 外窗 | 0.30 | 0.01 | 不适宜 |
| C0910 | 0.90 | 0.30 | 外窗 |
| C1506 | 0.90 | 0.30 | 外窗 |
| C1506 | 0.90 | 0.30 | 外窗 |
| F1002 | 50.20 | | 26.24 | c1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| F1004 | 45.66 | | 26.32 | C1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| C1515 | 2.25 | 0.30 | 外窗 |
| F1005 | 44.48 | | 41.02 | C1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| C1515 | 2.25 | 0.30 | 外窗 |
| F1006 | 43.12 | | 24.80 | c1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| F1007 | 42.28 | | 39.67 | c1506 | 0.90 | 0.30 | 外窗 | 0.30 | 0.01 | 不适宜 |
| F1010 | 26.47 | | 15.53 | C1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| G1003 | 86.53 | | 37.62 | C2406 | 1.44 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C2406 | 1.44 | 0.30 | 外窗 |
| 2 | 2002 | 61.19 | | 47.62 | c3015 | 4.50 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| 2003 | 61.68 | | 51.85 | c3015 | 4.50 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| 2005 | 31.69 | | 23.52 | c3015 | 4.50 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| 2007 | 21.26 | | 27.95 | c2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| B2001 | 230.29 | | 201.08 | c3024 | 7.20 | 0.30 | 外窗 | 0.30 | 0.08 | 不适宜 |
| 未编号 | 23.53 | 0.30 | 幕墙 |
| 未编号 | 6.65 | 0.30 | 幕墙 |
| 未编号 | 4.34 | 0.30 | 幕墙 |
| 未编号 | 4.34 | 0.30 | 幕墙 |
| c3024 | 7.20 | 0.30 | 外窗 |
| F2001 | 478.49 | | 217.60 | C1509 | 2.85 | 0.30 | 外窗 | 0.30 | 0.01 | 不适宜 |
| C1509 | 2.85 | 0.30 | 外窗 |
| F2004 | 45.66 | | 44.10 | C1509 | 1.35 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C1509 | 1.35 | 0.30 | 外窗 |
| F2006 | 43.12 | | 24.80 | c1509 | 1.35 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| F2007 | 42.28 | | 39.67 | c1509 | 1.35 | 0.30 | 外窗 | 0.30 | 0.01 | 不适宜 |
| F2010 | 26.47 | | 15.53 | C1509 | 1.35 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| G2001 | 699.63 | | 352.97 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C3614 | 5.04 | 0.30 | 外窗 |
| C3614 | 5.04 | 0.30 | 外窗 |
| C3614 | 5.04 | 0.30 | 外窗 |
| C3614 | 5.04 | 0.30 | 外窗 |
| G2002 | 90.09 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| G2003 | 86.53 | | 37.62 | C2409 | 2.16 | 0.30 | 外窗 | 0.30 | 0.03 | 不适宜 |
| C2409 | 2.16 | 0.30 | 外窗 |
| G2004 | 52.29 | | 47.36 | C5414 | 7.56 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| G2005 | 51.24 | | 46.82 | C5414 | 7.56 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| G2006 | 47.55 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| G2007 | 47.55 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| G2008 | 47.48 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| G2009 | 47.47 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| G2010 | 47.47 | | 26.04 | C3614 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| 3 | 3002 | 1164.16 | | 403.74 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| 3006 | 140.83 | | 62.19 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| C2421 | 5.04 | 0.30 | 外窗 |
| 3008 | 95.04 | | 38.64 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 3009 | 90.51 | | 38.64 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 3011 | 79.43 | | 38.64 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 3012 | 71.08 | | 38.64 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 3013 | 69.80 | | 38.64 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 4 | 4001 | 2695.56 | | 491.62 | C1214 | 1.68 | 0.30 | 外窗 | 0.30 | 0.09 | 不适宜 |
| C1214 | 1.68 | 0.30 | 外窗 |
| C2421 | 5.04 | 0.30 | 外窗 |
| 未编号 | 20.79 | 0.30 | 幕墙 |
| 未编号 | 1.65 | 0.30 | 幕墙 |
| 未编号 | 21.94 | 0.30 | 幕墙 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1521 | 3.15 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| 未编号 | 10.51 | 0.30 | 幕墙 |
| 未编号 | 10.51 | 0.30 | 幕墙 |
| 未编号 | 10.51 | 0.30 | 幕墙 |
| 未编号 | 10.51 | 0.30 | 幕墙 |
| C1815 | 2.70 | 0.30 | 外窗 |
| C1821 | 3.78 | 0.30 | 外窗 |
| 4007 | 156.61 | | 61.02 | C1118 | 1.90 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C1118 | 1.90 | 0.30 | 外窗 |
| 4009 | 132.39 | | 48.67 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| C2421 | 5.04 | 0.30 | 外窗 |
| 4011 | 86.04 | | 30.24 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| 4012 | 86.04 | | 30.24 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| 4014 | 82.77 | | 30.33 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| 4015 | 82.30 | | 28.93 | C2421 | 5.04 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| 4016 | 37.68 | | 46.39 | C1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.01 | 不适宜 |
| 4018 | 24.83 | | 17.89 | c1515 | 2.25 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 4019 | 8.66 | | 8.95 | C0915 | 1.35 | 0.30 | 外窗 | 0.30 | 0.05 | 不适宜 |
| 5 | X001 | 1566.08 | | 316.47 | C1815 | 2.70 | 0.30 | 外窗 | 0.30 | 0.02 | 不适宜 |
| C2121 | 4.41 | 0.30 | 外窗 |
| C2121 | 4.41 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| C1815 | 2.70 | 0.30 | 外窗 |
| X002 | 1844.58 | | 573.35 | C1118 | 1.90 | 0.30 | 外窗 | 0.30 | 0.00 | 不适宜 |
| C1118 | 1.90 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| C1214 | 1.68 | 0.30 | 外窗 |
| X007 | 86.04 | | 36.12 | C3024 | 7.20 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| X008 | 86.04 | | 36.12 | C3024 | 7.20 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| X009 | 86.04 | | 36.12 | C3024 | 7.20 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| X010 | 81.36 | | 34.16 | C3024 | 7.20 | 0.30 | 外窗 | 0.30 | 0.06 | 不适宜 |
| X017 | 35.55 | | 36.12 | C2121 | 4.41 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| X018 | 35.37 | | 36.12 | C2121 | 4.41 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| X019 | 35.37 | | 36.12 | C2121 | 4.41 | 0.30 | 外窗 | 0.30 | 0.04 | 不适宜 |
| 通风换气装置 | | | 无 | | | | | | | | |
| 标准依据 | | | 《公共建筑节能设计标准》(GB50189-2015)第3.2.8条 | | | | | | | | |
| 标准要求 | | | 甲类建筑外窗有效通风换气面积不宜小于所在房间立面面积的10% | | | | | | | | |
| 结论 | | | 不适宜 | | | | | | | | |

注：达标时只列出一项，不达标时列出全部不达标项

# 隔热检查

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 构造名称 | 构造类型 | 朝向 | 传热系数 | 热惰性指标 | 面密度 | 面积 (㎡) | 内表最高温度(℃) | 温度限值(℃) | 结论 |
| 外墙构造一 | 外墙 | 东 | 1.11 | 2.94 | 605 | 1025.88 | 27.73 | 28.00 | 满足 |
| 外墙构造一 | 外墙 | 西 | 1.11 | 2.94 | 605 | 2002.61 | 27.86 | 28.00 | 满足 |
| 屋顶构造一 | 屋顶 | 上 | 0.77 | 3.69 | 517 | 7145.46 | 27.83 | 28.50 | 满足 |
| 热桥柱构造一 | 热桥柱 | 西 | 1.11 | 2.94 | 605 | 227.20 | 27.86 | 28.00 | 满足 |
| 标准依据 | 《公共建筑节能设计标准广东省实施细则》(DBJ15-51-2007)第4.2.2条和《民用建筑热工设计规范》GB50176 | | | | | | | | |
| 标准要求 | 内表面温度不超过限值 | | | | | | | | |
| 结论 | 满足 | | | | | | | | |

# 非中空窗面积比

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 朝向 | 非中空玻璃面积(㎡) | 透光面积(㎡) | 非中空面积比 | 限值 | 结论 |
| 南向 | 0.00 | 56.93 | 0.00 | 0.15 | 满足 |
| 北向 | 0.00 | 973.73 | 0.00 | 0.15 | 满足 |
| 东向 | 0.00 | 668.16 | 0.00 | 0.15 | 满足 |
| 西向 | 0.00 | 942.20 | 0.00 | 0.15 | 满足 |
| 标准依据 | | 《公共建筑节能设计标准》(GB50189-2015)第3.3.7条 | | | |
| 标准要求 | | 非中空玻璃的面积不应超过同一立面透光面积的15% | | | |
| 结论 | | 满足 | | | |

# 外窗气密性

|  |  |  |
| --- | --- | --- |
| 层数 | 1～9层 | 10层以上 |
| 最不利气密性等级 | － | － |
| 外窗气密性措施 |  |  |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.3.5条，分级与检测方法《建筑外门窗气密、水密、抗风压性能分级及检测方法》（GB/T 7106-2008） | 《公共建筑节能设计标准》(GB50189-2015)第3.3.5条，分级与检测方法《建筑外门窗气密、水密、抗风压性能分级及检测方法》（GB/T 7106-2008） |
| 标准要求 | 10层以下外窗气密性不应低于《建筑外门窗气密、水密、抗风压性能分级及检测方法》（GB/T 7106-2008）的6级 | 10层及以上外窗气密性不应低于《建筑外门窗气密、水密、抗风压性能分级及检测方法》（GB/T 7106-2008）的7级 |
| 结论 | － | － |

# 幕墙气密性

|  |  |
| --- | --- |
| 最不利气密性等级 | － |
| 幕墙气密性措施 |  |
| 通风换气装置 | 无 |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.3.6条，《建筑幕墙》（GB/T 21086-2007） |
| 标准要求 | 幕墙气密性不应低于《建筑幕墙》（GB/T 21086-2007）的3级，即《建筑幕墙物理性能分级》(GB/T15225-94)的3级 |
| 结论 | － |

# 综合权衡

## 计算条件

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 设计建筑 | | | 参照建筑 | | |
| 屋顶传热系数K [W/(m2·K)] | | | 0.77(D:3.69) | | | 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 | | |
| 屋顶透光部分传热系数  K [W/(m2·K)] | | | 3.50 | | | 3.00 | | |
| 屋顶透光部分太阳得热系数 | | | 0.26 | | | 0.30 | | |
| 屋顶透明部分面积与屋顶面积之比 | | | 0.11 | | | 0.11 | | |
| 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 | 立面3 | 0.28 | 3.50 | 0.26 | 0.28 | 4.00 | 0.44 |
| 北向 | 立面4 | 0.20 | 3.50 | 0.26 | 0.20 | 5.20 | －－ |
| 东向 | 立面1 | 0.36 | 3.50 | 0.26 | 0.36 | 3.00 | 0.35 |
| 西向 | 立面2 | 0.29 | 3.50 | 0.26 | 0.29 | 4.00 | 0.44 |
| 室内参数和气象条件设置 | | | 按《公共建筑节能设计标准》附录B设置 | | | | | |

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。

## 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) | 10(㎡/人) | 9(W/㎡) | 15(W/㎡) |
| 办公-走廊 | 26 | 20 | 30(m3/h.人) | 10(㎡/人) | 9(W/㎡) | 15(W/㎡) |
| 商场-一般商店 | 25 | 18 | 30(m3/h.人) | 8(㎡/人) | 10(W/㎡) | 13(W/㎡) |
| 商场-高档商店 | 25 | 18 | 30(m3/h.人) | 8(㎡/人) | 10(W/㎡) | 13(W/㎡) |
| 空房间 | － | － | 20(m3/h.人) | 50(㎡/人) | 0(W/㎡) | 0(W/㎡) |

### 作息时间表

详见附录

## 综合权衡

|  |  |  |
| --- | --- | --- |
|  | 设计建筑 | 参照建筑 |
| 全年供暖和空调总耗电量(kWh/㎡) | 45.64 | 47.47 |
| 供冷耗电量(kWh/㎡) | 44.79 | 46.47 |
| 供热耗电量(kWh/㎡) | 0.85 | 0.99 |
| 耗冷量(kWh/㎡) | 111.96 | 116.18 |
| 耗热量(kWh/㎡) | 1.88 | 2.19 |
| 标准依据 | 《公共建筑节能设计标准》(GB50189-2015)第3.4.2条 | |
| 标准要求 | 设计建筑的能耗不大于参照建筑的能耗 | |
| 结论 | 满足 | |

# 结论

|  |  |  |
| --- | --- | --- |
| 序号 | 检查项 | 结论 |
| 1 | 可见光透射比 | 满足 |
| 2 | 屋顶构造 | 满足 |
| 3 | 外墙构造 | 满足 |
| 4 | 外窗热工 | 满足 |
| 5 | 有效通风换气面积 | 不适宜 |
| 6 | 隔热检查 | 满足 |
| 7 | 非中空窗面积比 | 满足 |
| 8 | 外窗气密性 | 满足 |
| 9 | 幕墙气密性 | 满足 |
| 10 | 综合权衡 | 满足 |
| 结论 | | 满足 |

# 附录

## 工作日/节假日室内空调温度时间表(℃)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 37 | 37 | 37 | 37 | 37 | 37 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 办公-走廊 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 37 | 37 | 37 | 37 | 37 | 37 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 商场-一般商店 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 37 | 37 | 37 | 37 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 37 | 37 | 37 | 37 |
| 商场-高档商店 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 37 | 37 | 37 | 37 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 37 | 37 | 37 | 37 |
| 空房间 | 37 | 37 | 37 | 37 | 37 | 37 | 28 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 37 | 37 | 37 | 37 | 37 | 37 |
| 37 | 37 | 37 | 37 | 37 | 37 | 28 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 37 | 37 | 37 | 37 | 37 | 37 |

注：上行：工作日；下行：节假日

## 工作日/节假日室内供暖温度时间表(℃)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 5 | 5 | 5 | 5 | 5 | 12 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 18 | 12 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 办公-走廊 | 5 | 5 | 5 | 5 | 5 | 12 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 18 | 12 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 商场-一般商店 | 5 | 5 | 5 | 5 | 5 | 5 | 12 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 12 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 12 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 12 | 5 | 5 | 5 |
| 商场-高档商店 | 5 | 5 | 5 | 5 | 5 | 5 | 12 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 12 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 12 | 16 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 12 | 5 | 5 | 5 |
| 空房间 | 12 | 12 | 12 | 12 | 12 | 12 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 12 | 12 | 12 | 12 | 12 | 12 |
| 12 | 12 | 12 | 12 | 12 | 12 | 18 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 12 | 12 | 12 | 12 | 12 | 12 |

注：上行：工作日；下行：节假日

## 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 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 办公-走廊 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 商场-一般商店 | 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 |
| 商场-高档商店 | 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 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 办公-走廊 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 商场-一般商店 | 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 |
| 商场-高档商店 | 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 |
| 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 | 95 | 95 | 95 | 50 | 50 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 办公-走廊 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 50 | 50 | 95 | 95 | 95 | 95 | 30 | 30 | 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 |
| 商场-一般商店 | 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 |
| 商场-高档商店 | 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 |
| 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

## 工作日/节假日空调系统运行时间表(1:开,0:关)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 系统编号 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 默认 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |

注：上行：工作日；下行：节假日