|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **HP 型顶部板式吊耳强度计算** | | 计算单位 |  | | |
| 计算所依据的标准 | | | **HG/T 21574-2008 附录 A** | | |
| **计 算 条 件** | | | **吊 耳 简 图** | | |
| 材料标准号 | **$$001** | | $03  20°  20°  ≤30°  $02  $01  $04 | | |
| 材料牌号/名称 | **$$002** | |
| 吊耳板厚度, δn | mm | **$$003** |
| 吊耳板尺寸, L | mm | **$$004** |
| 吊耳板尺寸, R | mm | **$$005** |
| 吊耳板尺寸, D | mm | **$$006** |
| 吊耳腐蚀裕量, C2 | mm | **$$007** |
| 单个吊耳吊重, m | kg | **$$008** |
| **材 料 特 性** | | | | | |
| 密度, ρ | kg/m³ | **$$009** | 常温屈服点, ReL | MPa | **$$010** |
| 材料负偏差, C1 | mm | **$$011** | / | | |
| **过 程 参 数** | | | | | |
| 厚度附加量, C | mm | C = C1 + C2 | | | **$$012** |
| 有效厚度, δe | mm |  | | | **$$013** |
| 角焊缝系数, Φ | / | Φ = 0.7 | | | **0.7** |
| 综合影响系数, K | / | 考虑动载荷冲击,多个吊耳吊装时的不均匀性, K = 1.65 | | | **1.65** |
| **强 度 计 算** | | | | | |
| 竖向载荷, Fv | N | FV = m×9.81×K | | | **$$016** |
| 横向载荷, FH | N | FH = FV×tan30° | | | **$$017** |
| 吊索方向载荷, FL | N | FL = FV/cos30° | | | **$$018** |
| 经向弯矩, M | N·mm | M = FH×L | | | **$$019** |
| 吊索方向最大拉应力, σL | MPa |  | | | **$$020** |
| 许用拉应力, [σ] | MPa | [σ] = ReL/1.6 | | | **$$021** |
| 吊索方向拉应力校核 | / | σL ≤ [σ] | | | **$$022** |
| 吊索方向的最大剪应力, τL | MPa | τL = σL | | | **$$023** |
| 许用剪应力, [τ] | MPa | [τ] = 0.6×[σ] | | | **$$04** |
| 吊索方向剪应力校核 | / | τL ≤ [τ] | | | **$$025** |
| 角焊缝面积, A | mm2 |  | | | **$$026** |
| 角焊缝拉应力, σa | MPa | σa = FV/A | | | **$$027** |
| 角焊缝剪应力, τa | MPa | τa = FH/A | | | **$$028** |
| 角焊缝弯曲应力, σb | MPa |  | | | **$$029** |
| 角焊缝组合应力, σab | MPa |  | | | **$$030** |
| 组合应力许用值, [σab] | MPa | [σab] = Φ[σ] | | | **$$031** |
| 角焊缝组合应力校核 | / | σab ≤ [σab] | | | **$$032** |

注：必要时，壳体尚应按 WRC-107 进行局部应力校核.