|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **内压圆筒强度校核** | | 计算单位 |  | | |
| 计算依据 | | | **GB/T 150.3-2011** | | |
| **计 算 条 件** | | | **简 图** | | |
| 设计压力, Pd | MPa | **$$001** | $11  $20  $10 | | |
| 设计温度, t | °C | **$$002** |
| 介质静压力, Ps | MPa | **$$003** |
| 材料标准号 | **$$004** | |
| 材料牌号/名称 | **$$005** | |
| 腐蚀裕量, C2 | mm | **$$006** |
| 焊接接头系数, φ | mm | **$$007** |
| 压力试验类型 | **$$008** | |
| 圆筒外直径, Do | mm | **$$020** |
| 名义厚度, δn | mm | **$$010** |
| 圆筒长度, L | mm | **$$011** |
| **材 料 特 性** | | | | | |
| 密度, ρ | kg/m³ | **$$012** | 设计温度许用应力, [σ]t | MPa | **$$015** |
| 试验温度下屈服点, ReL | MPa | **$$013** | 试验温度许用应力, [σ] | MPa | **$$016** |
| 材料负偏差, C1 | mm | **$$014** | 抗拉和屈服强度控制的应力, [σ]t1 | MPa | **$$017** |
| **过 程 参 数** | | | | | |
| 厚度附加量, C | mm |  | | | **$$018** |
| 有效厚度, δe | mm |  | | | **$$019** |
| 圆筒内直径, Di | mm |  | | | **$$009** |
| 计算压力, Pc | MPa |  | | | **$$021** |
| **内 压 强 度 校 核** | | | | | |
| 计算厚度, δc | mm |  | | | **$$022** |
| 最小成形厚度, δmin | mm |  | | | **$$023** |
| 设计厚度, δd | mm |  | | | **$$024** |
| 厚度校核 | / |  | | | **$$025** |
| 圆筒实际应力, σt | MPa |  | | | **$$026** |
| 许用应力 | MPa |  | | | **$$027** |
| 应力校核 | / |  | | | **$$028** |
| **压 力 试 验** | | | | | |
| 试压系数, η | / |  | | | **$$029** |
| 试验压力值, PT | MPa |  | | | **$$030** |
| 试验时实际应力, σT | MPa |  | | | **$$031** |
| 许用应力系数, ζ | / |  | | | **$$032** |
| 许用应力, [σ]T | MPa |  | | | **$$033** |
| 应力校核 | / |  | | | **$$034** |
| **MAWP** | | | | | |
| 最大允许工作压力, MAWP | MPa |  | | | **$$035** |
| **几 何 特 性** | | | | | |
| 内表面积, AI | m2 | **$$036** | 内容积, VI | m3 | **$$038** |
| 外表面积, AO | m2 | **$$037** | 重量, m | kg | **$$039** |