|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **多层圆筒内压强度计算** | | | 计算单位 |  | | | |
| 计算所依据的标准 | | | | **GB/T 150.3-2011** | | | |
| **计 算 条 件** | | | | **简 图** | | | |
| 设计压力, Pd | | MPa | **$$001** | $07  $06  $12 | | | |
| 设计温度, t | | °C | **$$002** |
| 介质静压力, Ps | | MPa | **$$003** |
| 内 筒 | 材料标准号 | **$$004** | |
| 材料牌号/名称 | **$$005** | |
| 内直径, Dsi | mm | **$$006** |
| 名义厚度, δsn | mm | **$$007** |
| 腐蚀裕量, Cs2 | mm | **$$008** |
| 层 板 | 材料标准号 | **$$009** | |
| 材料牌号/名称 | **$$010** | |
| 层数, n | / | **$$011** |
| 单层名义厚度, δcn | mm | **$$012** |
| 压力试验类型 | | **$$013** | |
| **材 料 特 性** | | | | | | | |
| 内 筒 | 密度, ρs | kg/m³ | **$$014** | 层 板 | 密度, ρc | kg/m³ | **$$020** |
| 材料负偏差, Cs1 | mm | **$$015** | 材料负偏差, Cc1 | mm | **$$021** |
| 试验温度下屈服点, RseL | MPa | **$$016** | 试验温度下屈服点, RceL | MPa | **$$022** |
| 设计温度许用应力, [σ]st | MPa | **$$017** | 设计温度许用应力, [σ]ct | MPa | **$$023** |
| 试验温度许用应力, [σ]s | MPa | **$$018** | 试验温度许用应力, [σ]c | MPa | **$$024** |
| 抗拉和屈服控制应力,[σ]st1 | MPa | **$$019** | 抗拉和屈服控制应力,[σ]ct1 | MPa | **$$025** |
| **过 程 参 数** | | | | | | | |
| 计算压力, Pc | | MPa |  | | | | **$$026** |
| 内 筒 | 厚度附加量, Cs | mm |  | | | | **$$027** |
| 有效厚度, δse | mm |  | | | | **$$028** |
| 焊接接头系数, φs | / |  | | | | **$$029** |
| 层板 | 名义厚度, δ0n | mm |  | | | | **$$030** |
| 焊接接头系数, φc | / |  | | | | **$$031** |
| 筒 体 | 总名义厚度, δn | mm |  | | | | **$$032** |
| 总有效厚度, δe | mm |  | | | | **$$033** |
| 总许用应力, | MPa |  | | | | **$$034** |
| **内 压 强 度 校 核** | | | | | | | |
| 计算厚度, δc | | mm |  | | | | **$$035** |
| 设计厚度, δd | | mm |  | | | | **$$036** |
| 厚度校核 | | / |  | | | | **$$037** |
| 实际应力, σact | | MPa |  | | | | **$$038** |
| 应力校核 | | / |  | | | | **$$039** |
| **压 力 试 验** | | | | | | | |
| 试压系数, η | | / |  | | | | **$$040** |
| 试验压力值, PT | | MPa |  | | | | **$$041** |
| 试验时实际应力, σT | | MPa |  | | | | **$$042** |
| 许用应力系数, ζ | | / |  | | | | **$$043** |
| 许用应力, [σ]T | | MPa |  | | | | **$$044** |
| 应力校核 | | / |  | | | | **$$045** |
| **MAWP** | | | | | | | |
| 最大允许工作压力, MAWP | | MPa |  | | | | **$$046** |