**HEAT EXCHANGER SPECIFICATION**

E-TSM 107 Appendix

|  |  |  |  |
| --- | --- | --- | --- |
| 01 Plant | 02 Location, Room No | 03 System No | 04 Component No |
|  |  |  |  |
| 05 Quantity | 06 Date | 07 Revised: Date/Item | |
| S |  |  | |

**THERMAL PART**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 08 Rating  10 Mean temp diff corr. | | 09 Mean temp diff corr. | | | | | | | | | 10 Overall Heat transfer coeff. | | | | | |
|  | kW |  | | | | | | | | |  | | | kW/m2°CC | | |
| 11 Surface per unit | | 12 Number of shells | | | | | | | | | 13 Surface per shell | | | | | |
|  | m2 |  | | | | | | | | |  | | | | | m2 |
|  | | | | | | | | Primary Side | | | | Secondary Side | | | | |
|  | | | | | | | | 14 | | | | 15 | | | | |
| Medium acc. to | | | | | | | |  | | | |  | | | | |
|  | | | | | | | | 16 | | | | 17 | | | | |
| Flow | | | | | | kg/s |  | | | | |  | | | | |
|  | | | | | | | | 18 | | | | 19 | | | | |
| Temp Inlet | | | | | | °C |  | | | | |  | | | | |
|  | | | | | | | | 20 | | | | 21 | | | | |
| Temp Outlet | | | | | | °C |  | | | | |  | | | | |
|  | | | | | | | 22 | | | | | 23 | | | | |
| Operating Pressure (absolute) | | | | | MPa | |  | | | | |  | | | | |
|  | | | | | | | | 24 | | | | 25 | | | | |
| Number of passes | | | | | | | |  | | | |  | | | | |
|  | | | | | | | | 26 | | | | 27 | | | | |
| Velocity | | | | | | m/s | |  | | | |  | | | | |
|  | | | | | | | | 28 | | | | 29 | | | | |
| Pressure Drop | | | | MPa | | | |  | (max) |  | |  | (max) | |  | |
|  | | | | | | | | 30 | | | | 31 | | | | |
| Fouling resistance | | | m2°C/kW | | | | |  | | | |  | | | | |
|  | | | | | | | | 32 | | | | 33 | | | | |
| Heat transfer coefficient | | | kW/m2°C | | | |  | | | | |  | | | | |

**DESIGN AND PERFORMANCE PART**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | Primary Side | | | | | Secondary Side | | |
|  | | | | | | | | | 34 | | | | | 35 | | |
| Design temp | | | | | | | °C | |  | | | | |  | | |
|  | | | | | | | | | 36 | | | | | 37 | | |
| Design pressure, internal (absolute) | | | | | | MPa | | |  | | | | |  | | |
|  | | | | | | | | | 38 | | | | | 39 | | |
| Design pressure,external (absolute) | | | | | | MPa | | |  | | | | |  | | |
|  | | | | | | | | | 40 | | | | | 41 | | |
| Design acc. to | | | | | | | | |  | | | | |  | | |
|  | | | | | | | | | 42 | | | | | 43 | | |
| Inspection acc. to | | | | | | | | |  | | | | |  | | |
|  | | | | | | | | | 44 | | | | | 45 | | |
| Quality class | | | | | | | | |  | | | | |  | | |
|  | | | | | | | | | 46 | | | | | 47 | | |
| Tightness class | | | | | | | | |  | | | | |  | | |
|  | | | | | | | | | 48 | | | | | 49 | | |
| Corrosion protection, external | | | | | | | | |  | | | | |  | | |
|  | | | | | | | | | 50 | | | | | 51 | | |
| Radiation internal | | | | mSv/h | | | | |  | | | | |  | | |
| 52 Forces and moments from connecting pipe | | | 53 Pressure difference across tube plate | | | | | | | | | 54 Operating conditions. Transients | | | | |
| connecting pipe | | |  | | | | | MPa | | | |  | | | | |
| 55 Ambient Conditions | Pressure | | | | Temperature | | | | | | Humidity | | | | Radiation | |
| Normal |  | MPa | | |  | | | | | °C |  | | RH % | |  | mSv/h |
| 56 Ambient Conditions | Pressure | | | | Temperature | | | | | | Humidity | | | | Radiation | |
| Abnormal |  | MPa | | |  | | | | | °C |  | | RH % | |  | mSv/h |

**DESIGN AND PERFORMANCE PART**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 57 **Type** | | | | | | | | |  | | | |  | | | | | | | | |  | | | | | | | To be proposed by | | | | | | | | | | | | |
| Tube exchanger | | | | | | |  | | | | | | Plate exchanger | | | | | | | | |  | | | | | | | manufacturer | | | | | | | |  | | | | |
| 58**Arrangement**  64 Vertical | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U-tubes | | | |  | | | | | | | | Straight tubes | | | |  | | | | | | | Horizontal | | | | | | |  | | | | Vertical | | | | |  | | |
| 59 **Type of tube fixing** | | | | | | | | | | |  | | | | | | | |  | | | | | | |  | | | | | | | | | | | | | | | |
| Welding after rolling | | | | | | | |  | | | | | | Rolled | | |  | | | | | To be proposed by manufacturer | | | | | | | | | | | | |  | | | | | | |
| **Connecting pipes** | | | | | | | | | | | **Primary side** | | | | | | | | | | | | | | | | | | | | | **Secondary side** | | | | | | | | | |
|  | | | | | | | | | | | Size | | | | Weld | | | | | Flange | | | | Pipe Code | | | | Size | | | | | Weld | | | Flange | | | | Pipe Code | |
|  | | | | | | | | | | | 60 | | | |  | | | | |  | | | |  | | | | 61 | | | | |  | | |  | | | |  | |
| Inlet |  | | | | | mm | | | | |  | | | |  | | | | |  | | | |  | | | |  | | | | |  | | |  | | | |  | |
|  |  | | | | |  | | | | | 62 | | | |  | | | | |  | | | |  | | | | 63 | | | | |  | | |  | | | |  | |
| Outlet | |  | | | | mm | | | | |  | | | |  | | | | |  | | | |  | | | |  | | | | |  | | |  | | | |  | |
|  |  | | | | |  | | | | | 64 | | | |  | | | | |  | | | |  | | | | 65 | | | | |  | | |  | | | |  | |
| Drain | |  | | | | mm | | | | |  | | | |  | | | | |  | | | |  | | | |  | | | | |  | | |  | | | |  | |
|  |  | | | | |  | | | | | 66 | | | |  | | | | |  | | | |  | | | | 67 | | | | |  | | |  | | | |  | |
| Venting | | |  | | | mm | | | | |  | | | |  | | | | |  | | | |  | | | |  | | | | |  | | |  | | | |  | |
|  |  | | | | |  | | | | | 68 | | | |  | | | | |  | | | |  | | | | 69 | | | | |  | | |  | | | |  | |
| Instrumentation | | | | |  | | | | | |  | | | |  | | | | |  | | | |  | | | |  | | | | |  | | |  | | | |  | |
| **Type of flange steal** | | | | | | | | |  | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
|  | | | | | | | | | 70 Double seal with interm. drainage | | | | | | | | | | | | | | | |  | | 74 Double seal with interm. drainage | | | | | | | | | | | | | |  |
|  | | | | | | | | | 71 Single seal with prov. for sealing weld | | | | | | | | | | | | | | | |  | | 75 Single seal with prov. for sealing weld | | | | | | | | | | | | | |  |
|  | | | | | | | | | 72 Single seal | | | | | | | | | | | | | | | |  | | 76 Single seal | | | | | | | | | | | | | |  |
|  | | | | | | | | | 73 Seal according to mfr´s standard | | | | | | | | | | | | | | | |  | | 77 Seal according to mfr´s standard | | | | | | | | | | | | | |  |
| **Material** | | |  | | | | | | | 78 Tubes | | | | | | | | 79 Tubeplate | | | | | | | | 80 Channel | | | | | | | | | | 81 Shell | | | | | |
|  | | | Tube exchanger | | | | | | |  | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | |
|  | | |  | | | | | | |  | | | | | | | |  | | | | | | | |  | | | | | | | | | |  | | | | | |
|  | | |  | | | | | | | 82 Plates | | | | | | | | 83 Nozzles | | | | | | | | 84 Gaskets between plates | | | | | | | | | | 85 Conn. flanges gaskets | | | | | |
|  | | | Plate exchanger | | | | | | |  | | | | | | | | Prim. | | |  | | | | | Prim. | | | | |  | | | | | Prim. | |  | | | |
|  | | |  | | | | | | | | Sec. | | |  | | | | | Sec. | | | | |  | | | | | Sec. | |  | | | |
| 86 Max Cobalt Content 0,2 % in item | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 87 Weight empty: | | 88 Weight, during operation | |
|  | kg |  | kg |
| 89 Max, overall length: | | 90 Max, overall height: | |
|  | mm |  | mm |

|  |  |
| --- | --- |
| 91 Manufactured by: | 92 Constructions drawings No |
|  |  |

**QUALITY AND CLASSIFICATION**

|  |  |  |  |
| --- | --- | --- | --- |
| 93 Quality class | 94 Design acc. to | 95 Inspection acc. to | 96 Tightness class |
|  |  |  |  |
| 97 Surface treatment acc. To | 98 Seismic Class |
|  |  |

**REMARK**

|  |
| --- |
| 99 To be stated by manufacturer |
|  |