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|  | **ITR - 051**  **Stainless Steel Tube and Fittings** | **ENTEC J #** |
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| **PLANT/SITE:** |  | **WORKPACK #:** | |  | | |
| Equipment: |  | Max Process Pressure: | |  | | |
| Location: |  | Max Supply Pressure: | |  | | |
| Tag No’s: |  | Max Signal Pressure: | |  | | |
| Process Fluid: |  | Process Temperature: | |  | | |
| Reference Drawings: |  |  | |  | | |
|  |
| Inspection: | Percentage of installed items to be checked | | 100% | | 10% | % |

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| **A.** | **CHECKS PRE INSTALLATION (Initials)** | **Tradesman** | **Supervisor** | **Client** |
| 01 | Tubing connection drawings and details available |  |  |  |
| 02 | Client site specific changes noted, agreed and sketched |  |  |  |
| 03 | Tube material type, size, gauge and standard confirmed and available |  |  |  |
| 04 | Tube fitting size and type confirmed and available |  |  |  |

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| **B.** | **CHECKS DURING AND POST INSTALLATION (Initials)** | **Tradesman** | **Supervisor** | **Client** |
| 01 | Correct thread compatibility and engagement |  |  |  |
| 02 | Correct thread tape and sealant used on fittings |  |  |  |
| 03 | Check fitting ferrule orientation and confirm prior to connection |  |  |  |
| 04 | Tube installation is in compliance with the client specification  (Supports, Bracketry, Slope, Expansion, Vibration, Access, Cables) |  |  |  |
| 05 | Tube bent correctly, sufficient straight section into fitting |  |  |  |
| 06 | Tube cut clean and straight, de-burred, reamed, and blown through |  |  |  |
| 07 | Depth insertion tool used, witness mark visible at all stages of process |  |  |  |
| 08 | Tube fitting hex’s marked to ensure correct swage tightness |  |  |  |
| 09 | Random check with No Go gap gauge |  |  |  |
| 10 | In service leak test performed and passed |  |  |  |
| 11 | Fitting completion tag completed and applied to each fitting |  |  |  |

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| **C. Maximum Tube Pressure Rating (Bar) SS316** | | | | | | **Maximum Thread Pressure Rating (Bar)** | | | |
| Tube Wall (inches) | Tube Size | | | | | Thread | Male | Female | NPT & ISO (BSP)  threads 316SS |
| ¼” | 3/8” | ½” | ¾” | 1” | 1/8” | 680 | 440 |
| (20) 0.035 | 350 | 220 | \* | \* | \* | ¼” | 550 | 450 |
| (18) 0.049 | 510 | 320 | 250 | \* | \* | 3/8” | 530 | 360 | All values referenced from Swagelok fittings  book |
| (16) 0.065 | 700 | 440 | 350 | 220 | \* | ½” | 530 |  |
| (14) 0.083 | \* | \* | 450 | 280 | 210 | ¾” | 500 |  |
| (13) 0.095 | \* | \* | \* | 330 | 240 | 1” | 360 |  |

Above pressures are up to 93 degrees C. Refer to Swagelok book for pressures over these.

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| Tradesperson Name: |  | Signature: |  | Date: / / |
| Supervisor Name: |  | Signature: |  | Date: / / |
| Client Rep Name: |  | Signature: |  | Date: / / |
| Comments: | | | | |
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