4.19.2 U.S. Customary Form Specification Sheet For ASME Section VIII, Division 2 Bellows Expansion Joints, U.S. Customary Units

Date:_____/_____/_____

Applicable ASME Code Edition:_____

Vessel Manufacturer:_____

1. Item Number:_____

Vessel Owner:_____

2. Drawing/Tag/Serial/Job Number:_____

Installation Location:_____

3. Quantity:_____

Expansion Joint Overall Length:_____ in.

4. Size: _____ OD _____ID in.

5. Internal Pressure: Design _____ psig

6. External Pressure: Design _____ psig

7. Vessel Manufacturer Hydrotest Pressure Internal _____ psig External _____ psig

8. Temperature	Design _____ °F	Operating _____ °F	Upset _____ °F
9. Vessel Rating	MAWP _____ psig	MDMT _____ °F	Installed Position: ☐ Horz. ☐ Vert.

10. Design Movements [Note (1)]:

Axial Compression: (−) _____ in. Axial Extension: (+) _____ in. Lateral: _____ in. Angular: _____ deg

11. Specified Number of Cycles: _____

12. Design Torsion: Moment _____ in.-lb or Twist Angle: _____ deg

13. Shell Material: _____ Bellows Material: _____

14. Shell Thickness: _____ in. Shell Corrosion Allowance: Internal: _____ in. External:_____ in.

15. Shell Radiography: ☐ Spot ☐ Full

16. End Preparation: ☐ Square Cut ☐ Outside Bevel ☐ Inside Bevel ☐ Double Bevel (Describe in Line 24 if special)

17. Heat Exchanger Tube Length Between Inner Tubesheet Faces: _____ in.

18. Maximum Bellows Spring Rate:	☐ No	☐ Yes – _____ lb/in.
19. Internal Liner:	☐ No	☐ Yes – Material_____
20. Drain Holes in Liner:	☐ No	☐ Yes – Quantity/Size:_____
21. Liner Flush with Shell ID:	☐ No	☐ Yes – Telescoping Liners? ☐ No ☐ Yes
22. External Cover:	☐ No	☐ Yes – Material:_____
23. Pre-Production Approvals Required:	☐ No	☐ Yes – Drawings/Bellows Calculations/Weld Procedures

24. Additional Requirements (i.e., bellows pre-set, ultrasonic examination, etc.):

NOTE:

(1) For multiple movements, design movements (line 10) can be replaced by operating movements, which should then be described under "Additional Requirements" (line 24). For each one of them, axial compression or axial extension, lateral deflection and angular rotation at each extremity of cycle, together with the specified number of cycles, should be indicated. When known, the order of occurrence of the movements should also be indicated.