

**4.19.1 Metric Form Specification Sheet For ASME Section VIII, Division 2 Bellows Expansion Joints, Metric Units**

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Applicable ASME Code Edition: \_\_\_\_\_

Vessel Class: \_\_\_\_\_

1. Item Number: \_\_\_\_\_

Vessel Manufacturer: \_\_\_\_\_

2. Drawing/Tag/Serial/Job Number: \_\_\_\_\_

Vessel Owner: \_\_\_\_\_

3. Quantity: \_\_\_\_\_

Installation Location: \_\_\_\_\_

4. Size: \_\_\_\_ OD \_\_\_\_ ID mm

Expansion Joint Overall Length: \_\_\_\_\_ mm

5. Internal Pressure: Design \_\_\_\_ MPa

6. External Pressure: Design \_\_\_\_ MPa

7. Vessel Manufacturer Hydrotest Pressure

Internal \_\_\_\_ MPa

External \_\_\_\_ MPa

8. Temperature

Design \_\_\_\_ °C

Operating \_\_\_\_ °C

Upset \_\_\_\_ °C

9. Vessel Rating

MAWP \_\_\_\_ MPa

MDMT \_\_\_\_ °C

Installed Position: Horz. Vert.

10. Design Movements: Axial Compression: (–) \_\_\_\_ mm Axial Extension: (+) \_\_\_\_ mm Lateral: \_\_\_\_ mm Angular: \_\_\_\_ deg

11. Specified Number of Cycles: \_\_\_\_\_

12. Design Torsion: Moment \_\_\_\_ N-mm or Twist Angle: \_\_\_\_ deg

13. Shell Material: \_\_\_\_\_

Bellows Material: \_\_\_\_\_

14. Shell Thickness: \_\_\_\_ mm Shell Corrosion Allowance: Internal: \_\_\_\_ mm External: \_\_\_\_ mm

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: \_\_\_\_ mm

18. Maximum Bellows Spring Rate: No Yes – \_\_\_\_ N/mm

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 Recommendations (i.e., bellows pre-set, ultrasonic examination, etc.):