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Specification for

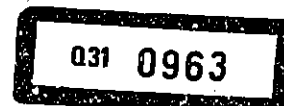
Shell boilers of welded construction (other than water-tube boilers)

Part 2. Class II and Class III
welded construction

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BS 2790 : Part 2 : 1973

Contents

	Page		Page
Co-operating organizations	Inside front cover	Appendix	
Foreword	3	A. Recommended forms of connections	78
Specification		Tables	
1. General	5	1. Minimum values of the ratio of the yield stress or 0.2% proof stress at elevated temperatures to the minimum specified tensile strength at room temperature of Class A carbon steel boiler plates and tubes to BS 3601	7
1.1 Scope	5	2. Values of z for welded longitudinal seams	8
1.2 Definitions	5	3. Attachment welds	38
1.3 Information to be supplied by the purchaser and the manufacturer	6	4. Minimum thickness of plain tubes under internal or external pressure	41
1.4 Interpretation	6	5. Dimensions of manholes and sightholes	55
1.5 Conditions for compliance with this standard	6	6. Number of lower openings	55
2. Materials and design stresses	6	7. Bend test requirements	75
2.1 Materials	6	Figures	
2.2 Design stresses	7	1. Maximum diameter of unreinforced openings (shell thickness not exceeding 75.5 mm)	9
3. Design	7	2. Maximum diameter of unreinforced openings (shell thickness exceeding 75.5 mm).	11
3.1 General	7	3. Compensation of welded branch or standpipe	12
3.2 Cylindrical shells subject to internal pressure	8	4. Typical methods of welding manhole frame and compensating plates	13
3.3 Dished and flanged ends	14	5. Typical dished ends	14
3.4 Standpipes and branches	19	6. Shape factor	16
3.5 Manhole and sighthole openings	20	7. Opening in ends	17
3.6 Stays, stiffeners and supported surfaces	21	8. Limits of reinforcement	18
3.7 Tubes and tube plates	38	9. Welding detail for manhole in flat end plate	20
3.8 Cylindrical furnaces and combustion chambers subject to external pressure	42	10. Access opening for wet-back boilers	20
3.9 Fireboxes	43	11. Attachment of unflanged flat end plates to shell	22
4. Manufacture and workmanship	47	12. Attachment of flues to end plates: dished or flat	22
4.1 Pressure parts	47	13. Typical arrangement of end plates on multitubular boilers	24
4.2 Welding	64	14. Typical arrangement of end plates on single furnace economic boilers	26
4.3 Heat treatment	67	15. Attachment of firebox and combustion chamber stays	28
4.4 Approval of welding procedures	69	16. Attachment of bar stays	28
4.5 Competence of welders	70	17. Typical methods of fitting welded girders to welded combustion chambers and fireboxes	30
5. Inspection and testing	72	18. Arrangement of firebox crown and stays for loco-type boilers	34
5.1 General requirements	72	19. Arrangement of firebox crown and transverse stays for loco-type boilers	35
5.2 Inspection during construction	72		
5.3 Test plates and mechanical tests of production welds	73		
5.4 Non-destructive examination	75		
5.5 Hydraulic tests	76		
6. Documentation and marking	77		
6.1 Drawing, documents and data sheets	77		
6.2 Certificates	77		
6.3 Marking	77		

BS 2790 : Part 2 : 1973

	Page		Page
20. Typical details for welded and pinned gusset stays	36	36. Welding of fluepipes	61
21. Typical details for all-welded gusset stays	36	37. Foundation rings	62
22. Typical details for diagonal link stays	37	38. Fusion welds of cross tubes	63
23. Attachment of stay tubes	40	39. Weld test piece	63
24. Stiffeners for horizontal flues	44	40. Reduced section tensile test specimen	74
25. Effective length L for use in Equations 20 and 21	44	41. Detail of test plates	74
26. Attachment of firebox to shell	46	42. Set-through branches (fillet-welded connections: recommended when $t < 13$ mm)	78
27. Plate preparation for butt-welded longitudinal and circumferential seams	48	43. Set-through branches (full penetration connections welded from both sides)	79
28. Attachment of flanged end plates to shell: ends thicker than shell	49	44. Set-through branches (full penetration connections welded from one side only)	79
29. Attachment of flanged end plates to shell: shell thicker than ends	51	45. Compensated set-through branches	80
30. Attachment of end plates to combustion chamber or firebox wrapper plates	52	46. Butt-welded studded connections	81
31. Detail of seal weld for plain tubes	54	47. Fillet-welded studded connections	81
32. Fusion-welded oval manhole frame	54	48. Screwed connections and welded sockets	82
33. Bowling hoops	59	49. 'Face and fillet' welded-on flange (for metal-arc welding)	83
34. Details of flue joint	60	50. 'Slip on' welded-on flanges (for metal-arc welding)	84
35. Firehole mouthpiece	60	51. Standard weld details for branches	85

Foreword

BS 2790, first published in 1956, under the title 'Cylindrical land steam boilers of welded construction' has now been revised and published in two parts. Part 1 refers only to boilers of Class I construction and examination to which ISO/R 831, 'Rules for construction of stationary boilers' of the International Organization for Standardization (ISO) is applicable. Part 2 refers only to Class II and Class III boilers, to which the ISO Recommendation is not applicable.

This standard forms one of a series of British Standards used in boiler construction, the others being:

- BS 10 Flanges and bolting for pipes, valves and fittings
- BS 759 Valves, gauges and other safety fittings for application to boilers and to piping installations for and in connection with boilers
- BS 1113 Water-tube steam generation plant including superheaters, reheaters and steel tube economisers
- BS 1501 Steels for fired and unfired pressure vessels. Plates
- BS 1502 Steels for fired and unfired pressure vessels. Sections and bars
- BS 1503 Steels for fired and unfired pressure vessels. Forgings
- BS 1504* Steels for fired and unfired pressure vessels. Castings
- BS 1971 Corrugated furnaces for shell boilers
- BS 3059 Steel boiler and superheater tubes
- BS 3601 Steel pipes and tubes for pressure purposes. Carbon steel: ordinary duties
- BS 3602 Steel pipes and tubes for pressure purposes. Carbon steel: high duties

* Included in BS 1501-6, 'Steels for use in the chemical, petroleum and allied industries'.

BS 2790 : Part 2 : 1973

BS 3643 ISO metric screw threads

BS 3692 ISO metric precision hexagon bolts, screws and nuts

BS 4504 Flanges and bolting for pipes, valves and fittings. Metric series

The standards in this series have been formulated with the object of providing adequate protection of life and property, a reasonably long safe period of usefulness and a proper margin for deterioration in service.

NOTE. Information concerning SI units is given in BS 350, 'Conversion factors and tables', BS 3643, 'The International System of units (SI)' and in PD 5686, 'The use of SI units'.

British Standard Specification for
Shell boilers of welded construction
 (other than water-tube boilers)

Part 2. Class II and Class III welded construction

1. General

1.1 Scope

1.1.1 This British Standard specifies requirements for directly-fired boilers and to waste-heat boilers of cylindrical, vertical and locomotive type designs, constructed by fusion welding to Class II and Class III requirements. The boilers covered by this standard are intended for land use for providing steam or hot water within the limits given in 1.1.2. This standard does not apply to water-tube boilers (see BS 1113).

NOTE. The titles of the British Standards referred to in this standard are listed on the inside back cover.

1.1.2 The Class II and Class III requirements for fusion welded boilers constructed in accordance with this standard are as follows:

Classification	Limits of application	Minimum thickness
Class II	When the following limits are not exceeded: (1) Design pressure, 0.725 N/mm^2 * (2) Design pressure in N/mm^2 * multiplied by the internal radius in mm: 460.	} 6.5 mm ($\frac{1}{4}$ "
Class III	When the following limits are not exceeded: (1) Design pressure, 0.38 N/mm^2 *. (2) Design pressure in N/mm^2 * multiplied by the internal radius in mm: 240	

1.1.3 Superheaters, economizers, air pre-heaters, mechanical stokers, gas or oil-burning equipment, forced or induced draught equipment or other accessories which may be required by the purchaser are extraneous to this standard and are matters for mutual arrangement between the purchaser and the manufacturer, reference being made to the appropriate British Standards (for example, BS 1113 for superheaters, BS 759 for boiler mountings).

1.1.4 This standard does not cover brickwork setting, insulation, boiler mountings or furnace fittings. Nevertheless, it is recommended that each boiler be furnished with mountings and furnace equipment, unless these are specifically excluded in the enquiry or order.

1.2 Definitions

For the purposes of this British Standard the definitions in BS 499 together with the following apply:

(1) *Inspecting Authority*. The body or association acting on behalf of the purchaser which ensures that the design, materials and construction are in accordance with this standard.

(2) *Certifying Authority*. The authority in the country of installation which certifies the compliance of the installation with the legal requirements in force in that country.

(3) *Design pressure*. The maximum permissible working pressure for the boiler.

* $1 \text{ N/mm}^2 = 1 \text{ MN/m}^2 = 1 \text{ MPa} = 10 \text{ bar}$