

CONFIRMED
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Specification for

Bulkhead pieces and tank pads —

**Part 1: Bulkhead pieces of fabricated
steel or copper alloy and steel pad
pieces**

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Committees responsible for this British Standard

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- BNF Metals Technology Centre
- British Non-ferrous Metals Federation
- British Ship Research Association
- British Shipbuilders
- British Steel Industry
- Department of Transport (Marine Directorate)
- General Council of British Shipping

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Types and applications	1
4 Designation	1
5 Materials	1
6 Dimensions and tolerances	1
7 Manufacturing requirements	1
8 Quality of manufacture, inspection and finish	1
9 Tests	3
10 Protection	3
Table 1 — Types and specifications for pad pieces, bulkhead pieces and stub pipes	2
Table 2 — Material specifications	3
Table 3 — Specifications for type A steel pad pieces for tanks etc.	4
Table 4 — Specifications for type C fabricated steel bulkhead pieces	5
Table 5 — Specifications for type E fabricated copper alloy bulkhead pieces	6
Table 6 — Specifications for type F fabricated steel bulkhead pieces (for slip-on type couplings)	7
Table 7 — Steel pad pieces for use with type K ductile iron bulkhead pieces: specifications	8
Table 8 — Steel pad pieces for use with types L and M ductile iron bulkhead pieces: specifications	9
Table 9 — Specifications for type G fabricated steel stub pipes	10
Publications referred to	Inside back cover

Foreword

This revision of this Part of BS MA 75 has been prepared under the direction of the Shipbuilding and Marine Standards Committee and is based on a proposal of the British Ship Research Association. It supersedes the 1976 edition which is withdrawn.

This Part of this standard provides a specification for fabricated steel or copper alloy bulkhead pieces, steel pad pieces and stub pipes to ensure the integrity of pipework when it passes through compartment division bulkheads or plating on board ship.

It has been subject to a general review and the main changes are as follows:

- a) an alternative method of construction is now given for type A pad pieces to enable the welding to be carried out from one side;
- b) type B pad pieces and type D bulkhead pieces have been deleted;
- c) new type F bulkhead pieces and type G stub pipes have been added.

These changes are reflected in the text and in Table 3 to Table 9.

NOTE Users of this standard should note that while observing the requirements of the standard, they should at the same time ensure compliance with such statutory requirements, rules and regulations as may be applicable to the individual ship concerned.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS MA 75 specifies a range of fabricated bulkhead pieces, steel pad pieces and stub pipes, for ships' pipework systems.

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

2 Definitions

For the purposes of this standard the following definitions apply.

2.1

bulkhead piece

a short length of tube provided with end pressure flanges and, usually, a central flange, with all flanges being attached to the tube by welding or brazing. Alternatively the tube ends may be plain for use with slip-on type couplings. The central flange is intended to be welded to the plate being penetrated

2.2

pad piece

a thickened form of pressure flange with one face machined, drilled with through holes and tapped for fasteners. The opposite face, usually unmachined, is welded to the plate being penetrated

2.3

stub pipe

a short branch pipe provided with a pressure flange and often used in preference to, or in conjunction with, a pad piece for tank/deck penetrations

3 Types and applications

The types of bulkhead pieces, pad pieces and stub pipes, their nominal size ranges (DN), nominal pressure ratings (PN) and applications shall be in accordance with Table 1. The maximum permissible working pressures shall not exceed those given in BS 4504-1 and BS 4504-2, as appropriate.

NOTE When PN 6 bulkhead pieces and pad pieces are to be used for direct valve attachment, it should be ascertained that valves with PN 6 flanges are available.

4 Designation

Bulkhead pieces and pad pieces shall be designated in terms of the type, nominal size and nominal pressure rating, e.g. type E/150/PN 16.

5 Materials

5.1 The materials for bulkhead pieces, pad pieces and stub pipes shall be in accordance with Table 2.

5.2 Material specifications for the bolts, studs and nuts for the bulkhead pieces, pad pieces and stub pipes shall be in accordance with BS 4504-1 and BS 4504-2.

6 Dimensions and tolerances

6.1 The dimensions for type A pad pieces shall be in accordance with Table 3. The dimensions for pad pieces for use with ductile iron bulkhead pieces of type K shall be in accordance with Table 7, and for use with ductile iron bulkhead pieces of types L and M shall be in accordance with Table 8.

NOTE Ductile iron bulkhead pieces of types K, L and M are specified in BS MA 75-2.

6.2 The dimensions for types C and E bulkhead pieces shall be in accordance with Table 4 and Table 6 respectively. The dimensions of type G stub pipes shall be in accordance with Table 9.

6.3 The dimensions for type F bulkhead pieces shall be in accordance with Table 6.

NOTE Particular attention is drawn to note 2 to Table 6 relating to tolerances on the outside diameter of the tube.

6.4 The tolerances on outside diameters and thicknesses of pad pieces and flanges shall be in accordance with BS 4504-1 and BS 4504-2.

7 Manufacturing requirements

7.1 The welding of steel bulkhead pieces shall be in accordance with BS 2633 and BS 2971 or with the requirements of the regulatory body concerned.

7.2 The fabrication of bulkhead pieces manufactured from a combination of copper alloy and steel components (i.e. a copper alloy tube with steel sleeve and steel central flange) shall be in accordance with BS MA 18.

7.3 Pad pieces shall have flat faced joint faces, and end flanges of bulkhead pieces shall have flat or raised joint faces in accordance with BS 4504-1 and BS 4504-2, as appropriate.

8 Quality of manufacture, inspection and finish

The manufacturer shall ensure that:

- for bulkhead pieces, the flanges are square to the axis of the tube;
- the finish of end flanges and pad pieces are in accordance with BS 4504-1 and BS 4504-2;
- the bore of flanges and pad pieces is concentric with the outside diameters;
- the pitch line drilling for bolts or studs is concentric with the bore of the flange or pad piece;