

Specification for

Hose couplings for petrol, oil and lubricants —

Part 2: High pressure couplings

Co-operating organizations

The Mechanical Engineering Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

Associated Offices' Technical Committee	Institute of Marine Engineers
Association of Consulting Engineers	Institution of Civil Engineers
Association of Mining Electrical and Mechanical Engineers*	Institution of Gas Engineers
Board of Trade*	Institution of Heating and Ventilating Engineers
British Chemical Plant Manufacturers' Association	Institution of Mechanical Engineers
British Compressed Air Society*	Institution of Mechanical Engineers (Automobile Division)
British Electrical and Allied Manufacturers' Association	Institution of Production Engineers
British Gear Manufacturers' Association	Locomotive and Allied Manufacturers' Association of Great Britain
British Internal Combustion Engine Manufacturers' Association	London Transport Board
British Steel Industry*	Machine Tool Trades Association
British Mechanical Engineering Federation	Ministry of Defence
British Pump Manufacturers' Association	Ministry of Defence — Army Department*
Crown Agents for Oversea Governments and Administrations*	Ministry of Power*
Department of Employment and Productivity (H.M. Factory Inspectorate)	Ministry of Public Building and Works
Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales	Ministry of Technology*
Engineering Equipment Users' Association*	Ministry of Technology — National Engineering Laboratory
Gas Council	Ministry of Transport
	National Coal Board*
	National Physical Laboratory (Ministry of Technology)
	Royal Institute of British Architects

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Association of British Railway Carriage and Wagon Manufacturers	Institution of Municipal Engineers
British Hose Manufacturers Association	Liquefied Petroleum Gas Industry Technical Committee
British Railways Board	Ministry of Defence — Navy Department
British Rubber Manufacturers Association Ltd.	Oil Companies Materials Association
Council of British Manufacturers of Petroleum Equipment	Individual manufacturers
Federation of Manufacturers of Construction Equipment	

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Contents

	Page
Co-operating organizations	Inside front cover
Foreword	ii
1 Scope	1
2 Information to be supplied by the purchaser	1
3 Designation of sizes of couplings	1
4 Materials	1
5 Dimensions	1
6 Workmanship	1
7 Screw threads	1
8 Washers	1
9 Bonding	2
10 Identification marking	2
11 Hydrostatic test	2
12 Inspection	2
13 Test facilities	2
Appendix A American form of hose-coupling thread: external threads	12
Appendix B American form of hose-coupling thread: internal threads	13
Figure 1 — Assembly of coupling	3
Figure 2 — Tail end: male	4
Figure 3 — Tail end: female	6
Figure 4 — Hex union nut and washer	8
Figure 5 — Screwed liner	10
Figure 6 — External threads	12
Figure 7 — Internal threads	13
Table 1 — Tail end: male	5
Table 2 — Tail end: female	7
Table 3 — Union nut: hexagon	9
Table 4 — Screwed liner for union nut	11
Table 5 — Dimensions of external threads	12
Table 6 — Dimensions of internal threads	13

Foreword

This standard makes reference to the following British Standards:

BS 218, *Leaded brass (58 per cent copper, 2 per cent lead) forging stock and forgings.*

BS 1400, *Schedule of copper alloy ingots and copper and copper alloy castings.*

BS 1936, *Undercuts and runouts for screw threads.*

BS 2751, *Vulcanized butadiene/acrylonitrile rubber compounds.*

BS 2779, *Fastening threads of BSP sizes.*

BS 3643, *ISO metric screw threads.*

This British Standard has been prepared under the authority of the Mechanical Engineering Industry Standards Committee and applies to couplings which have been designed primarily for aircraft refuelling purposes, but they may also be used for other general purposes.

Two forms of screw threads have been specified for the couplings: BSP threads in accordance with BS 2779¹⁾, and American threads in accordance with USAS specification B2.4 (see Appendix A and Appendix B). The latter thread has been specified to ensure that the couplings connect with oil equipment screwed in accordance with API. STD. 5L and 6A.

Appendix A and Appendix B have been included, giving the dimensions and tolerances of the American hosecoupling screw threads, but details of the pilot at the beginning of the male thread and the length of the nipple have been excluded.

It is recommended that the clips used for attaching the hose to the couplings be of good design and of adequate strength.

This standard forms one of a series for hose couplings, the other British Standards in this series being:

BS 336, *Fire hose couplings and ancillary equipment.*

BS 1782, *Hose couplings (1½ in to 8 in nominal sizes) other than fire hose couplings.*

BS 1906, *Hose couplings (air and water) 1⅛ in to 1¼ in nominal sizes.*

BS 2464-1, *Hose couplings for petrol, oil and lubricants (¾ in to 4 in nominal sizes).*

BS 2464-3, *Quick acting couplings.*

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.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 13 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⁾ BS 2779, "Fastening threads of BSP sizes".

1 Scope

This British Standard specifies requirements for couplings of 2 in, 2½ in, 3 in and 4 in nominal sizes with ribbed tails and hexagons for use at pressures not exceeding 1 550 kN/m² (225 lbf/in²). For assembly of coupling, see Figure 1.

2 Information to be supplied by the purchaser

The purchaser shall state in his enquiry and order, the form of screw thread required (see Clause 7).

3 Designation of sizes of couplings

The size by which the coupling is designated shall be the nominal bore of the hose with which it is to be used.

4 Materials

The material used in the manufacture of the couplings shall be as follows:

- 1) Gunmetal castings complying with Specification LG2-C of BS 1400²⁾.
- 2) Brass castings complying with Specifications B2-C and B3-C of BS 1400²⁾.
- 3) Hot pressings complying with BS 218³⁾ are permissible but the purchaser shall be given prior notification by the manufacturer of his intentions to supply hot pressings.

5 Dimensions

The dimensions of couplings and union nuts shall conform to those shown on Figure 2 to Figure 4 and in Table 1 to Table 3.

NOTE The illustrations in this standard are diagrammatic only, and are solely for the purpose of indicating where the specified dimensions apply.

6 Workmanship

Workmanship shall be of good quality. The couplings shall be machined all over including the bores. All burrs and sharp edges shall be removed.

7 Screw threads

The couplings shall be screwed with either:

- 1) BSP threads, "free fit" as specified in BS 2779⁴⁾
- or
- 2) American hose threads as specified in Appendix A and Appendix B. The first thread on all male and female threads shall be chamfered to 45°.

The purchaser shall state in his enquiry and order which threads he requires (see Clause 2).

The threads on the liner of the union nut (Figure 5 and Table 4) shall comply with BS 3643, "ISO metric screw threads", Part 3:1967, "Limits and tolerances for fine pitch threads (constant pitch series)", Table 4, Tolerance class 6H (medium fit) Table 5, Tolerance class 6g (medium fit).

Thread undercuts shall comply with BS 1936⁵⁾.

8 Washers

Washers shall be made of specially selected leather, synthetic rubber⁶⁾, synthetic rubber asbestos compound or other suitable material as specified by the purchaser.

²⁾ BS 1400, "Schedule for copper alloy ingots and copper and copper alloy castings".

³⁾ BS 218, "Leaded brass (58 per cent copper, 2 per cent lead) forging stock and forgings".

⁴⁾ BS 2779, "Fastening threads of BSP sizes".

⁵⁾ BS 1936, "Undercuts and runouts for screw threads".

⁶⁾ A suitable material is to BS 2751, "Vulcanized butadiene/acrylonitrile rubber compounds".

9 Bonding

The method to be used for electrically bonding the couplings shall be agreed between the purchaser and the manufacturer.

10 Identification marking

Each set of couplings shall be legibly and permanently marked with the manufacturer's identification and the number of this British Standard i.e. BS 2464-2.

In addition, couplings shall be marked with the following letters to indicate the type of screw thread on the couplings:

BSP — for threads complying with BS 2779⁷⁾.

Am — for American threads (see Appendix A and Appendix B).

NOTE The mark BS 2464-2, on or in relation to the product is a claim by the manufacturer that it complies with the requirements of the standard.

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11 Hydrostatic test

All couplings, when assembled without hose, shall be subjected to a hydrostatic test of 3 100 kN/m² (450 lbf/in²). It shall be applied after all machining operations have been completed. This test is for the purpose of locating flaws in the material after machining, and also to test the merits of the joint.

When couplings are being assembled for the hydrostatic test, only the appropriate standard wrench or spanner shall be used in tightening them. Use shall not be made of an extension on the handle of the wrench or spanner, or of other means to produce excessive tightness. Couplings complying with this standard shall not show signs of leakage during this test by reason either of a defective joint or of other defects.

When required, this test shall be applied in the presence of the purchaser or his representative.

12 Inspection

The purchaser or his representative shall have access, at all reasonable times, to those portions of the works in which the testing is taking place.

13 Test facilities

The manufacturer shall supply, at his own cost, labour and appliances for making the tests on his premises in accordance with this standard. Failing the existence of facilities for making the prescribed tests at his own works the manufacturer shall be responsible for having the tests made elsewhere.

⁷⁾ BS 2779, "Fastening threads of BSP sizes".