BRITISH STANDARD

BS 1139-4: 1982

CONFIRMED
JUNE 1990

Metal scaffolding —

Part 4: Specification for prefabricated steel splitheads and trestles

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This British Standard, having been prepared under the direction of the Civil Engineering and Building Structures Standards Committee, was published under the authority of the Board of BSI and comes into effect on
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The following BSI references relate to the work on this standard:
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Amendments issued since publication

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Contents

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Foreword

This Part of BS 1139 is one of a series specifying requirements for the design, construction and testing of equipment for use in scaffolding, and other temporary structures. It specifies requirements for steel splitheads and trestles and was previously published as part of section 4 of BS 1139:1964. BS 1139 is now being published in separate Parts as follows and, on publication of Parts 1 to 4, BS 1139:1964 will be withdrawn.

— *Part 1: Specification for tubes for use in scaffolding;*

— *Part 2: Specification for couplers, fittings and accessories for use in tubular scaffolding;*[1)]

— *Part 3: Specification for prefabricated access and working towers;*[1)]

— *Part 4: Specification for prefabricated steel splitheads and trestles.*

Further Parts will be added as the need arises.

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 6, 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)] In course of preparation.

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1 Scope

This British Standard specifies requirements for the design and fabrication of steel splitheads and steel trestles for use as supports for temporary platforms.

2 References

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

3 Definitions

For the purposes of this British Standard the following definitions apply.

splithead

a self-supporting metal stand for supporting one end of a horizontal beam on which a working platform may be laid

trestle

a self-supporting metal stand incorporating one or more beams on which a working platform may be laid

4 Materials

Steels used as structural members in the construction of splitheads and trestles shall comply with the requirements of the relevant British Standards as follows:

BS 4, BS 970, BS 1139-1, BS 1449, BS 1775, BS 4360 and BS 4848.

5 Design

5.1 General. Splitheads and trestles shall comply with the requirements of **5.2** to **5.6**. Additionally they shall be durable enough to withstand, without significant damage, reasonable handling in normal use, in storage and in transit.

Splitheads and trestles shall provide either a fixed height or a variable platform height.

NOTE Their base arrangements may be of a fixed configuration, or may be folding or swivelling to aid storage, handling and transit.

5.2 Fabrication and workmanship. Welds shall be of good quality and made in accordance with BS 5135. Holes shall be punched or drilled, preferably the latter.

All parts shall be cleanly finished, free from cracks, surface flaws, laminations and other detrimental defects. Ends of tubes shall be cut cleanly and square with the axis of the tube. All bolts, pins and rivets shall be secured against accidental displacement.

NOTE This standard does not specify requirements for protective finishes for splitheads and trestles but it is recommended that, if no other finish is specified, splitheads and trestles are painted. Guidance on the protection of iron and steel components may be found in BS 5493 and DD 24.

5.3 Dimensions. The maximum height of a splithead or trestle shall not exceed 3.0 m. Where a means of height adjustment is provided, it shall be in increments not exceeding 250 mm.The means of height adjustment shall be such that when adjusted to any height within the manufacturer's specified range, it shall be incapable of accidental disturbance through vibration or shock.

Pins used to support and/or adjust the height of the splithead or trestle shall be not less than 9 mm nominal diameter and shall be held captive to the splithead or trestle.

The minimum width of a platform-carrying member shall be as given in Table 1. A stop at least 30 mm high shall be permanently fixed to each outer end of the platform-carrying member.

Table 1 — Width of platform-carrying member

Designation	Minimum width
	mm
3 board	695
4 board	925
5 board	1 155

Splitheads shall be able to support securely two timber boards on edge, side by side, each with a minimum thickness of not less than 38 mm.

5.4 Stability. When assembled in accordance with the manufacturer's instructions, if the base is of rectangular configuration, the least base dimensions, measured centre to centre, shall be not less than 0.34 of the maximum extended height. If the base is of an equilateral triangle configuration, each base side dimension, measured centre to centre, shall be not less than 0.58 of the maximum extended height.

5.5 Vertical load carrying capacity. Each trestle, when erected on a level base and tested in accordance with Appendix A, shall be capable of supporting a minimum safe working load of 4.5 kN uniformly distributed to the top of the platform-carrying member.

Each splithead, when erected on a level base and tested in accordance with Appendix A, shall be capable of supporting a minimum safe working load of 6.0 kN applied through a 75 mm wide beam.

The trestles shall be deemed to comply with the requirements of this standard if the appropriate minimum load specified in **A.1** has been reached.

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6 Marking

Trestles and splitheads shall be marked in a permanent and legible manner with the following information:

a) the number of this British Standard, i.e. BS 1139-4*;

b) the supplier's name or trademark;

c) the safe working load of the equipment, in kg.

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Appendix A Method of measurement of vertical load carrying capacity

A.1 Procedure. Erect the equipment under test such that it is extended to its maximum height and 1½° out of plumb (see Figure 1 and Figure 2). Do not insert any wedges or packaging of any description between adjustable members in an attempt to improve the initial straightness.

If tested in multiples, incline the equipment in the same direction and interconnect the tops with a load distribution member or members rigid enough to prevent the introduction of additional bending moments into the top of the equipment under test.

NOTE Trestles may be tested either singly or in pairs. Splitheads may be tested either singly or in fours.

Use a test load (*M*) of not less than 2.5 times the quoted safe working load, with a minimum value of 11.25 kN for a trestle and 15 kN for a splithead. Evenly divide the load between the points indicated in Figure 1 and apply it through rigid bearing pads with a length of 75 mm and a minimum width equal to or greater than the bearing width of the platform support member of the trestle or splithead. If necessary the bearing pads may be shaped to match the contour of the platform support member.

Apply an axial compression load at a rate not exceeding 5 kN/min to the tops of the bearing pads, as indicated in Figure 1 and Figure 2 as appropriate, in such a manner that the top and bottom of the trestle or splithead is not restrained from lateral movement until either the equipment fails or will support no further load.

A.2 Recording of results. On completion of the test, the final test load shall be recorded to the nearest 0.5 kN.

A.3 Test report. The test report shall contain the following information.

a) Adequate information to reliably identify the equipment tested. This may be in the form of the manufacturer's drawings, specially prepared sketches or extracts from trade catalogues.

b) Confirmation of whether or not the equipment satisfies the material requirements of clause **4**.

c) Confirmation of whether or not the equipment satisfies the design requirement of clause **5**, with details of the test loads achieved.

d) The type of surface finish.

e) Other information relevant to the test, e.g. the organization commissioning the test, the testing laboratory, the date of the test and comments on the behaviour of the equipment under test loads, including a description of failure modes and the location of any point of failure.

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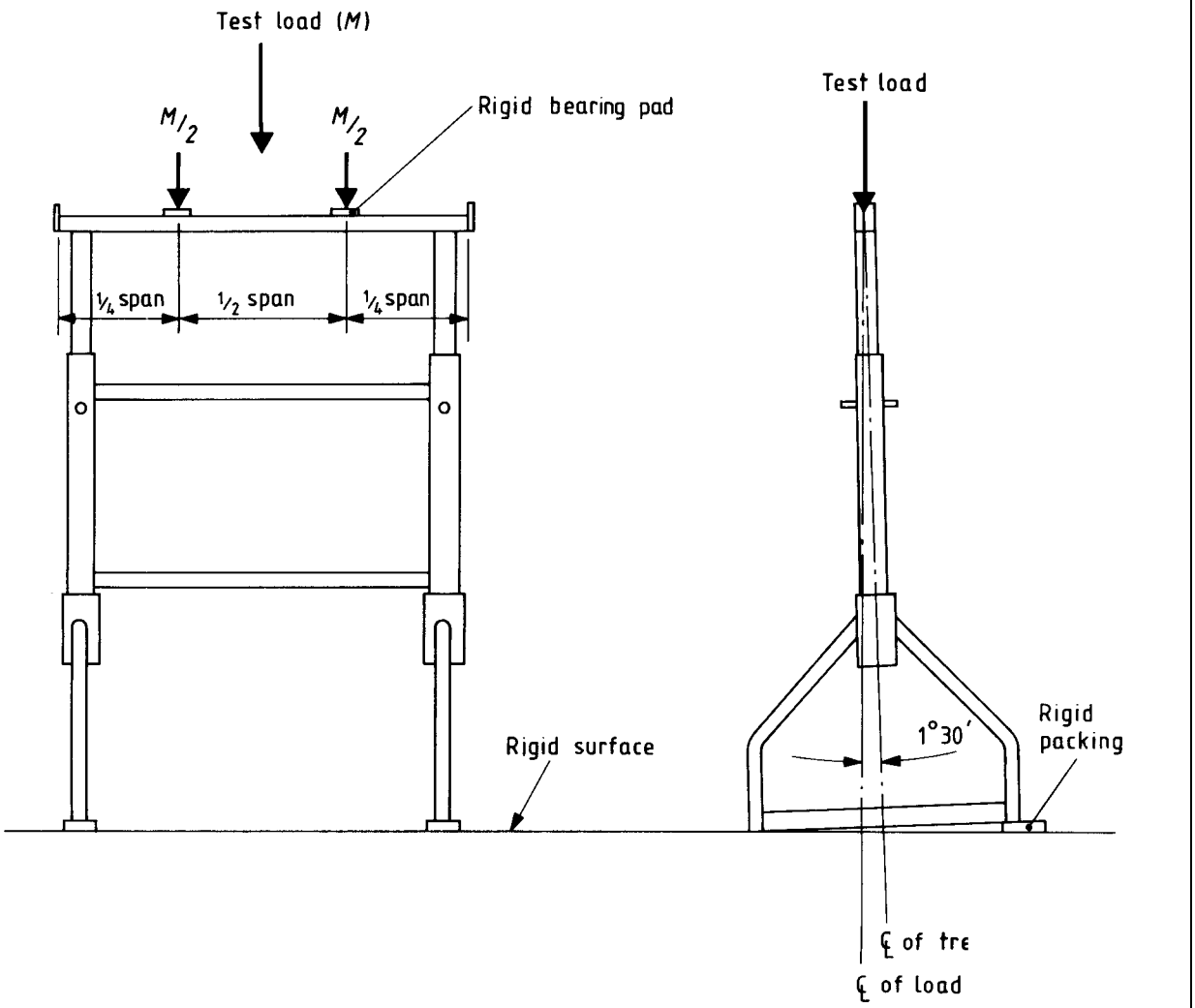

Figure 1 — Test layout for adjustable steel trestle

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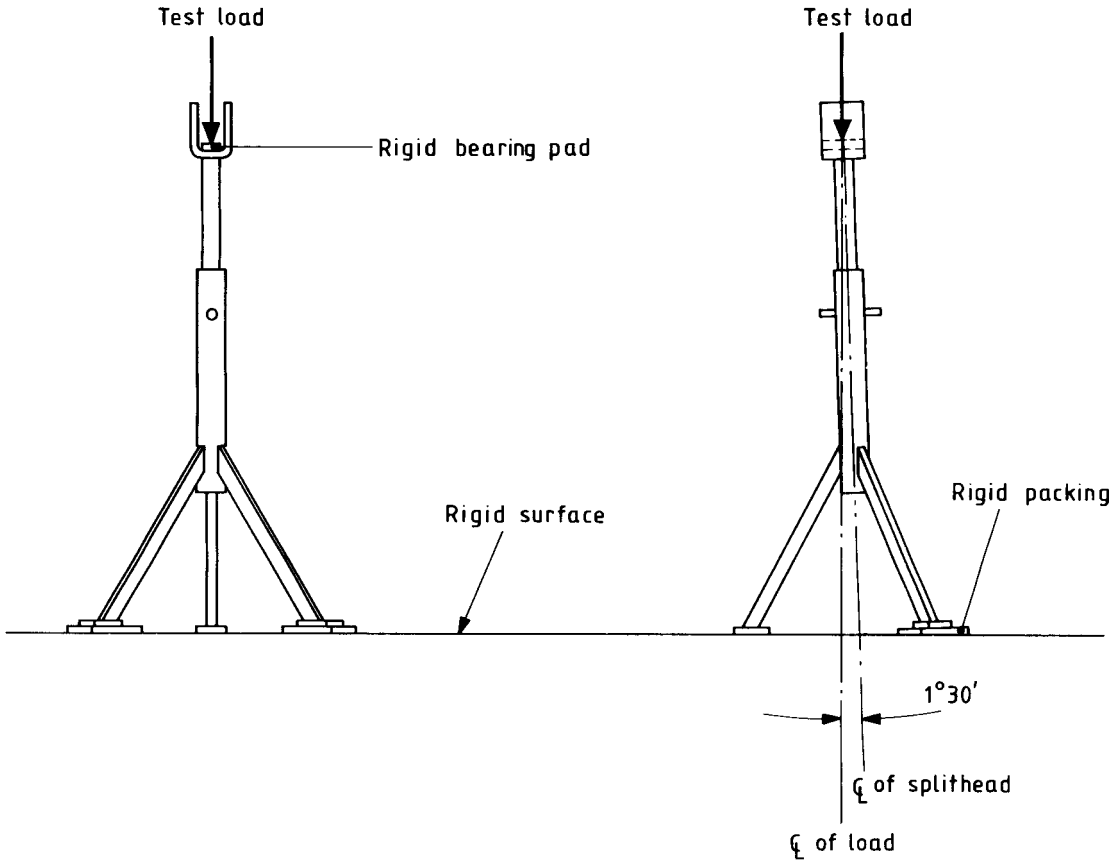

Figure 2 — Test layout for splitheads

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Publications referred to

BS 4, *Structural steel sections.*
BS 970, *Wrought steels in the form of blooms, billets, bars and forgings.*
BS 1139, *Metal scaffolding.*
BS 1139-1, *Specification for tubes for use in scaffolding.*
BS 1449, *Steel plate, sheet and strip.*
BS 1775, *Steel tubes for mechanical, structural and general engineering purposes.*
BS 4360, *Specification for weldable structural steels.*
BS 4848, *Hot-rolled structural steel sections.*
BS 5135, *Metal-arc welding of carbon and carbon manganese steels.*
BS 5493, *Code of practice for protective coating of iron and steel structures against corrosion.*
DD 24, *Recommendations for methods of protection against corrosion on light section steel used in building.*

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