BRITISH STANDARD

BS 1574:1994

## Specification for

# Split pins (inch series)

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Mechanical Engineering Standards Policy Committee (GME/-) to Technical Committee GME/9, upon which the following bodies were represented:

BEAMA Ltd.
British Constructional Steelwork Association Ltd.
British Industrial Fasteners Federation
British Steel Industry
British Steel Industry (Wire Section)
Gauge and Tool Makers' Association
Society of Motor Manufacturers and Traders Ltd.
Washer Manufacturers' Association of Great Britain

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Defence Manufacturers' Association
General Municipal Boilermaker and Allied Trades Union
Screw Thread Tool Manufacturers' Association
Society of British Aerospace Companies Ltd.

This British Standard, having been prepared under the direction of the General Mechanical Engineering Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 March 1994



The following BSI references relate to the work on this standard:
Committee reference GME/9
Draft for comment 90/73145 DC

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**Amendments issued since publication**

| Amd. No. | Date | Comments |
|---|---|---|
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# Contents

# Foreword

This British Standard has been prepared under the direction of the General Mechanical Engineering Standards Policy Committee. It supersedes BS 1574:1972, which is withdrawn.

The principal changes that have been made in this edition are as follows.

a) The deletion of metric sizes which are now specified in BS 7724:1994.

b) The addition of the material characteristics for stainless steel, copper and brass from which inch series split pins may be manufactured.

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 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 Scope

This British Standard specifies the characteristics of ferrous and non-ferrous split pins with inch dimensions and nominal diameter from $^1/_{32}$ inch to $^1/_2$ inch inclusive.

## 2 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by updating or revision.

## 3 Dimensions

The dimensions and tolerances of inch split pins shall be as given in Table 1 and Table 2 and Figure 1.

## 4 Form and tolerance

The tolerance of the split pin hole shall be H13, in accordance with BS 4500-1.1:1990 and BS 4500-1.2:1990.

The eye of the pin shall approximate to the form shown in Figure 1. The length of the eye shall be the distance from the underside to the extreme outer surface of the eye and shall conform to the dimensions given in Table 1.

The closed legs of the shank shall form a circular cross section and be straight and parallel throughout the nominal length.

The nominal length of pin shall be the distance of the eye to the extreme end of the short leg, i.e. the straight length of the short leg (see Figure 1).

The tolerance on the length of inch split pins shall be as given in Table 3.

## 5 Characteristics

The characteristics of inch split pins shall be as given in Table 4.

## 6 Designation

When designating for the purposes of an enquiry or order, the following information shall be given:

a) general product description, i.e. split pin;

b) the number of this British Standard, i.e. BS 1574:1994;

c) the nominal diameter of the product in inches;

d) the nominal length in inches;

e) the material, i.e. stainless steel;

f) details of the coating (if requested) and the relevant British Standard, e.g. BS 7371.

Example: The designation of a steel split pin of nominal diameter $^1/_8$ inch and nominal length 1 inch is as follows:

BS 1574:1994 $^1/_8 \times 1$ steel

## Table 1 — Dimensions of inch split pins

Dimensions in inches

| Nominal diameter[ab] | *d* | | *a* | | *R* | *b* | *c* |
|---|---|---|---|---|---|---|---|
| | max. | min. | max. | min. | max. | | max.[c] |
| $^1/_{32}$ | 0.031 | 0.024 | 0.06 | 0.03 | 0.002 | 0.09 | 0.062 |
| $^3/_{64}$ | 0.046 | 0.035 | 0.10 | 0.05 | 0.004 | 0.11 | 0.092 |
| $^1/_{16}$ | 0.062 | 0.051 | 0.10 | 0.05 | 0.006 | 0.12 | 0.124 |
| $^5/_{64}$ | 0.077 | 0.067 | 0.10 | 0.05 | 0.006 | 0.16 | 0.154 |
| $^3/_{32}$ | 0.093 | 0.083 | 0.10 | 0.05 | 0.008 | 0.19 | 0.186 |
| ($^7/_{64}$) | 0.108 | 0.101 | 0.10 | 0.05 | 0.008 | 0.22 | 0.216 |
| $^1/_8$ | 0.124 | 0.106 | 0.10 | 0.05 | 0.010 | 0.25 | 0.248 |
| ($^9/_{64}$) | 0.140 | 0.132 | 0.16 | 0.08 | 0.011 | 0.28 | 0.280 |
| $^5/_{32}$ | 0.155 | 0.138 | 0.16 | 0.08 | 0.012 | 0.31 | 0.310 |
| ($^{11}/_{64}$) | 0.171 | 0.161 | 0.16 | 0.08 | 0.013 | 0.34 | 0.342 |
| $^3/_{16}$ | 0.186 | 0.173 | 0.16 | 0.08 | 0.016 | 0.38 | 0.372 |
| ($^7/_{32}$) | 0.218 | 0.208 | 0.16 | 0.08 | 0.016 | 0.44 | 0.436 |
| $^1/_4$ | 0.249 | 0.224 | 0.16 | 0.08 | 0.020 | 0.50 | 0.498 |
| ($^9/_{32}$) | 0.280 | 0.270 | 0.16 | 0.08 | 0.021 | 0.56 | 0.560 |
| $^5/_{16}$ | 0.311 | 0.287 | 0.16 | 0.08 | 0.024 | 0.62 | 0.622 |
| $^3/_8$ | 0.373 | 0.358 | 0.25 | 0.12 | 0.028 | 0.75 | 0.746 |
| ($^7/_{16}$) | 0.436 | 0.421 | 0.25 | 0.12 | 0.033 | 0.87 | 0.872 |
| $^1/_2$ | 0.498 | 0.476 | 0.25 | 0.12 | 0.038 | 1.00 | 0.996 |

[a] The nominal diameter is the diameter of the split pin hole.

[b] The sizes shown in brackets are non-preferred.

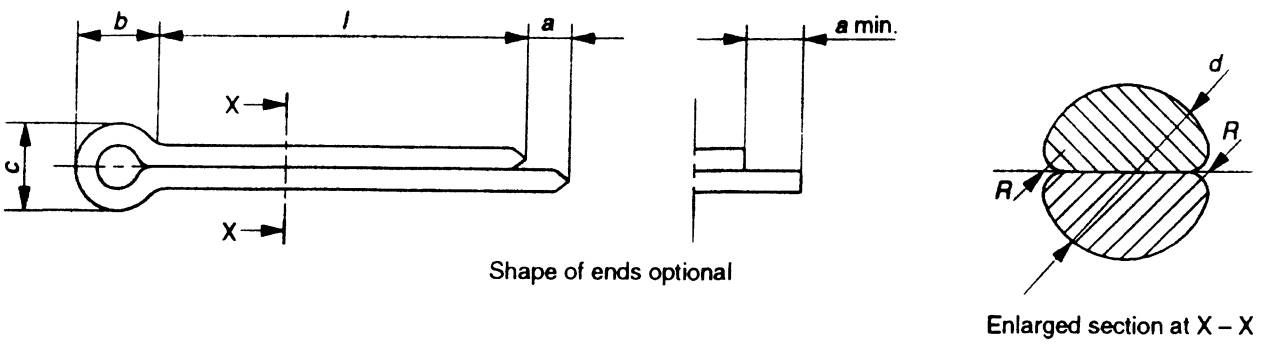
[c] No values are given in the table for the minimum eye diameter *c* but it shall not be less than 1.75 times the actual shank diameter *d*.

## Table 2 — Lengths of inch split pins

Dimensions in inches

| Nominal length $l$ | Nominal diameter[a] | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/32 | 3/64 | 1/16 | 5/64 | 3/32 | (7/64) | 1/8 | (9/64) | 5/32 | (11/64) | 3/16 | (7/32) | 1/4 | (9/32) | 5/16 | 3/8 | (7/16) | 1/2 |
| 1/4 | | | | | | | | | | | | | | | | | | |
| 3/8 | | | | | | | | | | | | | | | | | | |
| 1/2 | | | | | | | | | | | | | | | | | | |
| 5/8 | | | | | | | | | | | | | | | | | | |
| 3/4 | | | | | | | | | | | | | | | | | | |
| 7/8 | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | |
| 1 1/8 | | | | | | | | | | | | | | | | | | |
| 1 1/4 | | | | | | Range of commercial lengths | | | | | | | | | | | | |
| 1 3/8 | | | | | | | | | | | | | | | | | | |
| 1 1/2 | | | | | | | | | | | | | | | | | | |
| 1 5/8 | | | | | | | | | | | | | | | | | | |
| 1 3/4 | | | | | | | | | | | | | | | | | | |
| 1 7/8 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 2 1/4 | | | | | | | | | | | | | | | | | | |
| 2 1/2 | | | | | | | | | | | | | | | | | | |
| 2 3/4 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 3 1/4 | | | | | | | | | | | | | | | | | | |
| 3 1/2 | | | | | | | | | | | | | | | | | | |
| 3 3/4 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 4 1/4 | | | | | | | | | | | | | | | | | | |
| 4 1/2 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 5 1/2 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |

[a] The sizes shown in brackets are non-preferred.




NOTE For dimension *l* see Table 2.

**Figure 1 — Dimensions of inch split pins**

**Table 3 — Tolerance on length of inch split pins**

Dimensions in inches

| Nominal diameter | Tolerance on length |
|---|---|
| $\leq {}^{1}/_{8}$ | ± 0.060 |
| $> {}^{1}/_{8} \leq {}^{1}/_{4}$ | ± 0.080 |
| $> {}^{1}/_{4} \leq {}^{3}/_{8}$ | ± 0.100 |
| $> {}^{3}/_{8}$ | ± 0.120 |

**Table 4 — Characteristics of inch split pins**

| | | | |
|---|---|---|---|
| **Material** | **Ferrous** | **Steel** | 0.15 % C max.<br>Maximum UTS 620 N/mm$^2$ |
| | | **Stainless steel** | 0.15 % C max.<br>1.00 % Si max.<br>2.00 % Mn max.<br>0.045 % S max.<br>0.045 % P max.<br>17/20 % Cr max.<br>7/11 % Ni max.<br>Maximum UTS 620 N/mm$^2$ |
| | **Non-ferrous** | **Copper** | Hard condition for $d \leq {}^1/_4$ inch<br>Annealed condition for $d > {}^1/_4$ inch |
| | | **Brass** | $^1/_4$ hard condition for $d \leq {}^3/_8$ inch<br>Annealed condition for $d > {}^3/_8$ inch |
| **Surface finish** | Split pins shall be supplied in natural finish treated with a protective lubricant, unless otherwise specified by agreement between customer and supplier. | | |
| **Workmanship** | Parts shall be uniform in quality and free of irregularities or detrimental defects. | | |
| **Acceptability** | The acceptance procedure is covered in BS 6587:1985. | | |

# List of references (see clause 2)

## Normative references

### BSI publications

BRITISH STANDARDS INSTITUTION, London

BS 4500, *ISO limits and fits.*
BS 4500-1, *General tolerances and deviations.*
BS 4500-1.1:1990, *Specification for bases of tolerances, deviations and fits.*
BS 4500-1.2:1990, *Tables of commonly used tolerance and grades and limits deviations for holes and shafts.*
BS 6587:1985, *Method of acceptance inspection for fasteners.*

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BSI
389 Chiswick High Road
London
W4 4AL