

Dimensions of

Small rivets for general purposes

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

Aluminium Development Association	Railway Carriage and Wagon Builders’ and Financiers’ Parliamentary Association
British Brake Lining Manufacturers’ Association	Small Rivet Association
British Steel Wire Industries Association	Society of British Aircraft Constructors Ltd.
Copper Development Association	Society of Motor Manufacturers and Traders Ltd.
North East Coast Institution of Engineers and Shipbuilders	Manufacturers of rivets

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Foreword

This standard requires reference to the following British Standard:—

BS 1473, *“Wrought aluminium and aluminium alloys — Rivet, bolt and screw stock for forging”*.

The revision of this British Standard was authorized by the Mechanical Engineering Industry Standards Committee and supersedes the 1935 edition of this standard.

In this revision dimensional requirements for reaper rivets have been included. The opportunity has also been taken to make a few minor amendments.

The following British Standards also relate to rivets:—

BS 275, *Dimensions of rivets ($1/2$ in. to $1 3/4$ in. diameter) excluding boiler rivets.*

BS 425, *Forms and dimensions of boiler rivets as manufactured, $1/2$ in to 2 in. diameter.*

BS 1109, *Cold forged mild steel rivets for cold closing.*

Details of rivet snaps are given in BS 673, *“Pneumatic tools and accessories.”*

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 15 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 dimensions of small rivets of nominal diameters below $\frac{1}{2}$ in. for general purposes, and the dimensions of 140° countersunk head rivets (hose rivets) and reaper rivets. The dimensions of these rivets are given in Table 1 to Table 10 inclusive, and the sizes normally stocked are given in Table 11.

The dimensions of washers for use with 140° countersunk head rivets (hose rivets) are also included in Table 8.

NOTE Coopers' flat head rivets, $\frac{1}{2}$ in. dia. and below, are included in an Appendix (see also Table 4 and Table 11e — Mild steel flat head rivets).

2 Materials

This British Standard covers small rivets made from mild steel, copper, brass and the range of aluminium alloys and pure aluminium specified in BS 1473, "*Wrought aluminium and aluminium alloys. Rivet, bolt and screw stock for forging.*"

3 Definitions

3.1

nominal diameter

the nominal diameter of the rivet shall be the diameter of the rivet shank as set out in Col. 1 of Table 1 to Table 7, and Cols. 1 and 2 of Table 8 to Table 10

3.2

nominal length

the nominal length of a snap (or round), pan, mushroom, or flat-head rivet shall be the length from the underside of the head to the extreme end of the rivet

the nominal length of a countersunk head rivet shall be the overall length, with the exception of the 140° countersunk head rivets dealt with in Table 8, in which the nominal length shall be the length from the underside of the head to the extreme end of the rivet

4 Permissible variation from nominal diameter of shank

The shank of the rivet, excluding any tapered point, shall not vary in any place from the nominal diameter by more than the appropriate amount given in the following table, provided always that the diameter of the shank at the end remote from the head shall not be greater than the nominal diameter:—

Nominal diameter	Limits of tolerance on shank	
	Plus	Minus
in.	in.	in.
$\frac{1}{16}$ up to and including $\frac{3}{16}$ (or 6 S.W.G.)	0.002	0.004
Over $\frac{3}{16}$ (or 6 S.W.G.) up to and including $\frac{1}{4}$ (or 3 S.W.G.)	0.003	0.005
$\frac{5}{16}$	0.004	0.006
$\frac{3}{8}$	0.004	0.008
$\frac{7}{16}$	0.005	0.009

5 Radius under head

In all types of rivets other than rivets with countersunk heads there shall be a small radius or chamfer at the junction of the head and the shank.

NOTE 1 When purchasing countersunk head rivets, it is necessary to give the included angle of the head (60° , 90° , 120° or 140°) in the enquiry and order.

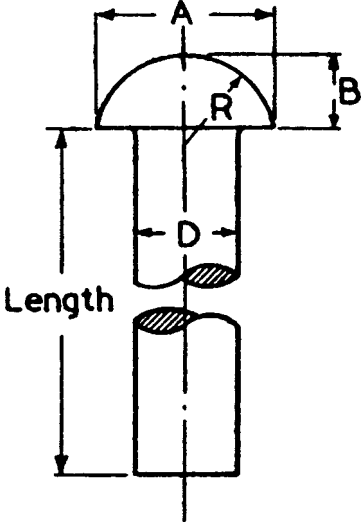
NOTE 2 The volumetric content of snap head and pan head rivets (Table 1 and Table 2) is designed to be equal.

NOTE 3 The decimal inch dimensions of rivet heads are theoretical only and are calculated to the nearest one-thousandth of an inch for the guidance of the die sinker.

NOTE 4 Tolerances are not specified for the heads of the rivets.

NOTE 5 There shall be a slight radius at the periphery of the head of countersunk head rivets. (See Table 5, Table 6, Table 7, Table 8 and Table 9.)

Table 1 — Snap (or round) head rivets

Mild steel and non-ferrous  Standard proportions : A = 1·75 D. B = 0·75 D. R = 0·885 D.			
Nominal diameter (see Clause 4)	Diameter of head	Depth of head	Radius of head
D	A	B	R
in.	in.	in.	in.
1/16	0.109	0.047	0.055
3/32	0.164	0.070	0.083
1/8	0.219	0.094	0.111
5/32	0.273	0.117	0.138
3/16	0.328	0.141	0.166
1/4	0.438	0.188	0.221
5/16	0.547	0.234	0.277
3/8	0.656	0.281	0.332
7/16	0.766	0.328	0.387