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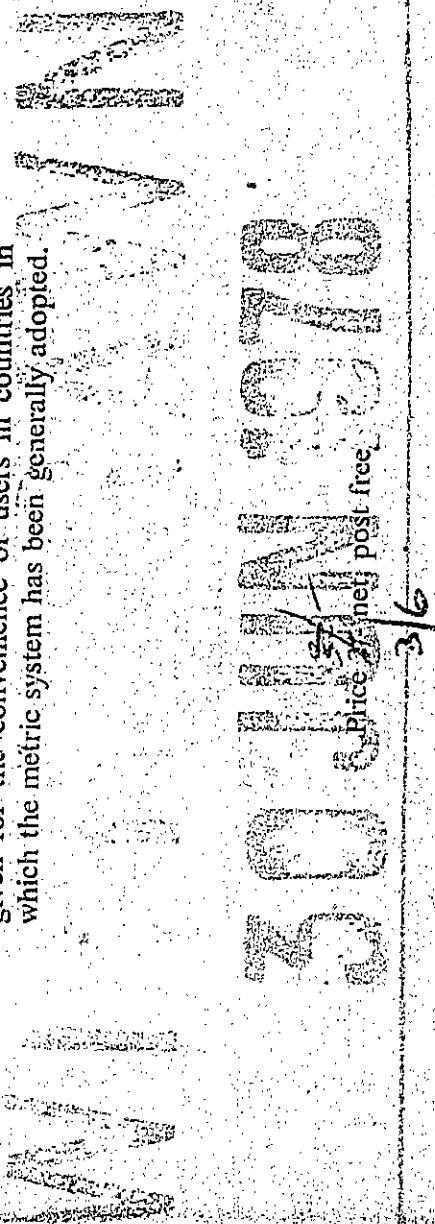
BRITISH STANDARD 425 : 1943

+ 1 Amendment

FORMS & DIMENSIONS OF BOILER RIVETS AS MANUFACTURED

THIS BRITISH STANDARD having been approved by the Mechanical Industry Committee and endorsed by the Engineering Divisional Council was published under the authority of the General Council on 16th June, 1943.

The figures in British measures are to be regarded as the Standard. Approximate metric equivalents are given for the convenience of users in countries in which the metric system has been generally adopted.



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28 VICTORIA STREET, LONDON, S.W.1

Telegrams : Standards, Sowest, London.

Telephone : Abbey 3333

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The Mechanical Industry Committee under whose supervision this British Standard was prepared consists of representatives from the following Government Departments and Scientific and Industrial Organisations :

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- Crown Agents for the Colonies
- Department of Scientific and Industrial Research
- *High Commissioner for India
- Home Office
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- Machine Tool Trades Association
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- The Government Departments and Scientific and Industrial Organisations 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 :
- Board of Trade
- British Corporation Register
- Lloyds Register
- N.E. Coast Institution of Engineers and Shipbuilders
- British Rivet Association
- Locomotive Manufacturers Association

30 JUL 1978

BRITISH STANDARD SPECIFICATION FOR

FORMS AND DIMENSIONS OF

BOILER RIVETS

AS MANUFACTURED, $\frac{1}{8}$ IN. TO 2 IN. DIAMETER

FOREWORD

This British Standard was first issued in 1931. The present issue has been prepared under the authority of the Mechanical Industry Committee to incorporate an additional form of head, namely the Pan Head, Type 3, with a conical neck.

No changes have been made in the standards for the other types of head as included in the 1931 edition.

For the convenience of users of the Standard an additional table has been included giving the nominal dimensions of the heads calculated from the proportions standardised in the diagrams.

SPECIFICATION

DEFINITION

1. *Nominal Diameter.* The nominal diameter D of the rivet is the Standard diameter of the rivet as set out in Col. 1 of Table 1.

STANDARD DIAMETERS

2. The standard diameters of the rivets shall be in accordance with Col. 1 of Table 1.

PERMISSIBLE VARIATIONS FROM NOMINAL DIAMETER OF SHANKS

3. (A) Rivets of nominal diameter D up to and including one inch (25.4 mm.)

(i) Rivets five diameters long and under.

a. The measured points of the shank for determining any variation from the nominal diameter D shall be at a distance of $\frac{1}{8} D$ plus $\frac{1}{8}$ in. ($\frac{1}{8} D$ plus 3.2 mm.) from the head and one-half of the diameter D from the point (positions X and Y respectively in Fig. 1, page 10).

b. The diameter of the shank at position X (Fig. 1) shall be not less than the nominal diameter D . It shall be not greater than the nominal diameter D by more than $\frac{1}{64}$ in. (0.4 mm.) (see Cols. 2 and 3 of Table 1).

c. The diameter of the shank at position Y (Fig. 1) shall be not greater than the nominal diameter D . It shall be not less than the nominal diameter D by more than $\frac{1}{64}$ in. (0.4 mm.). In addition the diameter of the shank between the positions X and Y shall in no case be greater than the maximum diameter

specified at position X nor less than the minimum diameter specified at position Y (see Cols. 4 and 5 of Table 1).

d. The difference between any two diameters of the shank measured at right angles to each other in the same cross sectional plane shall not exceed $\frac{1}{16}$ in. (0.2 mm.).

(ii) Rivets over five diameters long.

e. The measured points of the shank for determining any variation from the nominal diameter D shall be :

- (i) at a distance of $\frac{1}{8}$ D plus $\frac{1}{8}$ in. ($\frac{1}{8}$ D plus 3.2 mm.) from the head (position X, Fig. 2, page 11).
- (ii) at a distance equal to four and a half times the diameter D from the head (position Y, Fig. 2), and
- (iii) at a distance equal to half the diameter D from the point (position Z, Fig. 2).

f. The diameter of the shank at position X (Fig. 2) shall be not less than the nominal diameter D. It shall be not greater than the nominal diameter D by more than $\frac{1}{64}$ in. (0.4 mm.) (see Cols. 2 and 3 of Table 1).

g. The diameter of the shank at position Y (Fig. 2) shall be not greater than the nominal diameter D. It shall be not less than the nominal diameter D by more than $\frac{1}{64}$ in. (0.4 mm.). In addition the diameter of the shank between the positions X and Y shall in no case be greater than the maximum diameter specified at position X nor less than the minimum diameter specified at position Y (see Cols. 4 and 5 of Table 1).

h. The diameter of the shank between the positions Y and Z (Fig. 2) shall be not greater than the maximum diameter specified at position Y and shall be not less than the nominal diameter D by more than $\frac{1}{64}$ in. (0.4 mm.) (see Col. 6 of Table 1).

j. The difference between any two diameters of the shank between the positions X and Z (Fig. 2) measured at right angles to each other in the same cross sectional plane shall not exceed $\frac{1}{64}$ in. (0.4 mm.).

(B) Rivets of nominal diameter D exceeding one inch (25.4 mm.).

k. The measured points of the shank for determining any variation from the nominal diameter D and the permissible variation in diameter at these points for rivets of nominal diameter D exceeding one inch (25.4 mm.) shall be the same as those for rivets up to and including one inch (25.4 mm.) nominal diameter except as follows :

l. The permissible variation above the nominal diameter D of the shank at position X shall be $\frac{1}{32}$ in. (0.8 mm.) (see Col. 3 of Table 1) except that where specially ordered the permissible variation for rivets up to $1\frac{1}{4}$ in. (32 mm.) nominal diameter D shall be limited to $\frac{1}{64}$ in. (0.4 mm.).

m. The difference between the diameters at positions X and Y shall in no case exceed $\frac{1}{32}$ in. (0.8 mm.).

FORMS AND PROPORTIONS OF RIVET HEADS

4. British Standard boiler rivet heads (as manufactured); including the cone chamfer under the head, shall conform to the forms and proportions shown

in Figs. 3 to 5 with a permissible upward variation upon all dimensions of $\frac{1}{64}$ in. (0.4 mm.) except in the case of conical head rivets, Fig. 7, where a slight flattening below the standard contour at the apex of the head not exceeding $\frac{1}{64}$ in. (0.4 mm.) over an area of 0.125 D in diameter may be permitted.

NOTE. The following British Standards include particulars of material for rivet bars for the production of the rivets dealt with in this Specification.

B.S. 14. Structural Steel for Marine Boilers.

B.S. 24. Railway Rolling Stock Material. Specification No. 16, Steel for Plates, Angles, etc., and Rivets for Locomotive Boilers.

The following British Standard covers the forms of the heads and the tolerances on the shanks for Structural Rivets :

B.S. 275. Dimension of Rivets ($\frac{1}{2}$ in. to $1\frac{3}{4}$ in. diameter).