

Specification for

Engineers' squares (including cylindrical and block squares)

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- Department of Industry (National Physical Laboratory)
- Department of Prices and Consumer Protection (British Calibration Service)
- Gauge and Tool Makers' Association

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Foreword

This British Standard is one of a series for engineers' precision measuring equipment that is being revised and metricated to replace the series in imperial units. First published in 1941, when it applied only to the type commonly known as the try square, BS 939 was revised in 1962 to include cylindrical squares and block squares in both solid and open forms.

In addition to metrication, a feature of the present revision is the rationalization of the various tolerances. Wherever practicable, they have been made proportional to the length of the square and every effort has been made to maintain a logical relationship between the tolerances for the various grades.

Appendix A and Appendix B provide, respectively, notes regarding bevelled edges of grade AA engineers' try squares and on the manufacture and testing of squares.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 14, 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.

Section 1. General

1 Scope

This British Standard specifies requirements for engineers' try squares (excluding adjustable squares), cylindrical squares and block squares of solid or open form.

Section 1 specifies general requirements applicable to all types of square.

Section 2 specifies requirements for engineers' try squares in three grades of accuracy, AA, A and B, with inner lengths of blade from 50 mm up to and including 1 000 mm.

Section 3 specifies requirements for cylindrical squares in accuracy grade AA in sizes from 75 mm up to and including 750 mm.

Section 4 specifies requirements for solid form block squares in accuracy grades AA and A in sizes from 50 mm × 40 mm up to and including 1 000 mm × 1 000 mm.

Section 5 specifies requirements for open form block squares in accuracy grades A and B in sizes from 150 mm × 100 mm up to and including 600 mm × 400 mm.

NOTE While the standard provides for squares in various grades of accuracy, it should be noted that their accuracy in use is dependent upon the flatness of the surfaces on which they are used.

2 References

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

3 Nomenclature and definitions

For the purposes of this British Standard the nomenclature given in Figure 2(a), Figure 6, Figure 7 and Figure 8 for the various types of square has been adopted, and the following definitions apply.

3.1

deviation from straightness and flatness

the minimum distance between two parallel planes that just enclose the surface under consideration

3.2

deviation from parallelism

the difference between the maximum and minimum distances separating the surfaces or edges under consideration

3.3 squareness of two surfaces

3.3.1

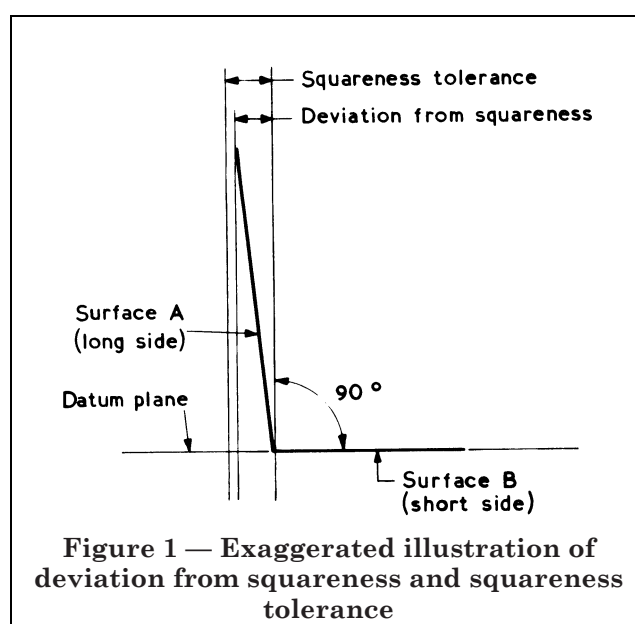
deviation from squareness

the minimum distance between two parallel planes that will just enclose one surface (A), including any straightness error of surface (A), and that are perpendicular to a datum plane in contact with the other surface (B) (see Figure 1)

3.3.2

squareness tolerance

the maximum permissible deviation from squareness (see Figure 1)



3.4

tolerances

the maximum permissible deviations from straightness, flatness, parallelism and squareness

4 Protection against climatic conditions

All surfaces of the squares shall be protected against climatic conditions by being covered with a suitable corrosion preventative preparation or a paper impregnated with a vapour phase inhibitor (VPI).

Temporary (easily removable) corrosion preventatives are dealt with fully in BS 1133-6. Guidance on sealed packs with desiccants is given in BS 1133-19.