

Hardmetal insert tooling —

Part 8: Specification for dimensions for type A cartridges for indexable (throwaway) inserts

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Committees responsible for this British Standard

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- British Engineers Cutting Tools Association
- British Hardmetal Association
- Co-opted members

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National foreword

This British Standard has been prepared by Technical Committee MTE/18 and is identical with ISO 5611:1995 *Cartridges, type A, for indexable inserts — Dimensions* published by the International Organization for Standardization (ISO). It supersedes BS 4193-8:1990 which is withdrawn.

Cross-reference. The Technical Committee has reviewed the provisions of ISO 3002-1:1982 to which normative reference is made in the text, and has decided that it is acceptable for use in conjunction with this standard.

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 10, 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 International Standard specifies the general dimensions of type A cartridges for indexable inserts, and specifies preferred cartridges (see clauses 5 and 6).

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3002-1:1982, *Basic quantities in cutting and grinding — Part 1: Geometry of the active part of cutting tools — General terms, reference systems, tool and working angles, chip breakers*.

3 Remarks

The designation of cartridges is dealt with in ISO 5608; however, for cartridges, type A, the symbol CA shall be applied in reference (7) of the code of symbolization, and for cartridges with lengths in accordance with this International Standard, the letter symbol identifying tool length is replaced by a dash.

4 Dimensions

4.1 Shank

The dimensions, in millimetres, given in Figure 1 and Table 1 apply to shanks of all cartridges styles:

4.2 Identification of dimensions l_1 , f and h_1

4.2.1 The length dimension l_1 is the distance from the specified point K (see Figure 2 to Figure 5) to the end of the shank, including the adjusting screw length l_2 in its mid position.

Dimension f is the distance between the specified point K and the rear backing surface of the cartridge.

Dimension h_1 is the height to the specified point K. The values of l_1 , f and h_1 , as specified in clause 6, are given for cartridges equipped with master inserts having corner radii in accordance with 4.2.3.

4.2.2 The specified point K is defined as follows:

Consider plane P_f (assumed working plane) and P_s (tool cutting edge plane) according to ISO 3002-1 for a selected point on the major cutting edge (for example point of tangency of major cutting edge with inscribed circle).

a) For $\kappa_r \leq 90^\circ$, point K is defined as the intersection of plane P_s , a plane parallel to plane P_f tangent to the corner radius and a plane containing the tool face A_γ (see Figure 2 and Figure 3).

b) For $\kappa_r > 90^\circ$, point K is defined as the intersection of a plane parallel to plane P_f tangent to the corner radius, a plane perpendicular to plane P_f tangent to the corner radius and a plane containing the tool face A_γ (see Figure 4 and Figure 5).

4.2.3 The corner radius r_e of the master inserts used for the definition of dimensions l_1 , f and h_1 is a function of the diameter of the inscribed circle of the insert, as indicated in Table 2.

NOTE 1 Dimensions l_1 , f and h_1 are based on corner radii r_e , converted from inch values, i.e. $r_e = 0,397$ mm, $0,794$ mm and $1,191$ mm.

4.2.4 Cartridges may be equipped with inserts of size in accordance with clause 6 and any corner radius r_e .

For corner radii r_e other than those specified in 4.2.3, dimensions l_1 and f shall be corrected by using the values x and y (see Figure 2 to Figure 5), which are the distances from the specified point K, as defined in 4.2.2 to the theoretical corner T.

The new dimensions l_1 and f are found from the differences between x and y corresponding to the corner radius according to 4.2.3, and x and y corresponding to the real corner radius.