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British Standard

Hardmetal insert tooling

**Part 15. Specification for dimensions for indexable
hardmetal (carbide) inserts with wiper edges
but without fixing hole**

[ISO title : Indexable hardmetal (carbide) inserts with wiper edges,
without fixing hole – Dimensions]

Outillage à plaquettes en métaux-durs

Partie 15. Dimensions des plaquettes amovibles en métaux-durs (carbures métalliques)
avec arêtes de planage, sans trou de fixation – Spécifications

Hartmetallwendeschneidplatten

Teil 15. Wendeschneidplatten aus Hartmetall mit Planschneiden, ohne Befestigungsbohrung; Maße

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National foreword

This Part of BS 4193 has been prepared under the direction of the Machine, Engineers and Hand Tools Standards Committee and forms part of a series, each Part dealing with an aspect of hardmetal insert tooling. The series implements corresponding international standards in the development of which the UK has played an active part.

This Part of BS 4193 is identical with ISO 3365 ‘Indexable hardmetal (carbide) inserts with wiper edges, without fixing hole – Dimensions’ which was revised and published in 1985 by the International Organization for Standardization (ISO) and was prepared by Technical Committee ISO/TC 29, Small tools. It supersedes BS 4193 : Parts 4 and 5, which are now withdrawn.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used throughout as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words ‘International Standard’ appear, referring to this standard, they should be read as ‘British Standard’.

Cross-references

International standard	Corresponding British Standard
ISO 1832-1985	BS 4193 Hardmetal insert tooling Part 1 : 1986 Specification for designation of indexable inserts for cutting tools (Identical)

The Technical Committee has reviewed the provisions of ISO 513-1975, referred to in clauses 2 and 5, and has decided that they are acceptable for use in conjunction with this Part of BS 4193.

ISO 883-1985, ISO 3364-1985 and ISO 6987/1-1983 are only referred to in clause 2 for information.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

British Standard

Hardmetal insert tooling

Part 15. Specification for dimensions for indexable hardmetal (carbide) inserts with wiper edges but without fixing hole

1 Scope and field of application

This International Standard specifies the dimensions of indexable hardmetal (carbide) inserts with wiper edges, without fixing hole. These inserts are primarily intended to be mounted on milling cutters by top or wedge clamping.

2 References

ISO 513, *Application of carbides for machining by chip removal — Designation of the main groups of chip removal and groups of application.*

ISO 883, *Indexable hardmetal (carbide) inserts with rounded corners, without fixing hole — Dimensions.*

ISO 1832, *Indexable inserts for cutting tools — Designation.*

ISO 3364, *Indexable hardmetal (carbide) inserts with rounded corners, with cylindrical fixing hole — Dimensions.*

ISO 6987/1, *Indexable hardmetal (carbide) inserts with rounded corners, with partly cylindrical fixing hole — Part 1: Dimensions of inserts with 7 degrees normal clearance.*

3 Types of inserts

The types of indexable hardmetal (carbide) inserts specified in this International Standard are the following:

- TP PPN:
symmetrical triangular inserts with 11° normal clearance, 90° cutting edge angle and 11° wiper edge normal clearance;
- TP PDR; TP PDL:
asymmetrical triangular inserts with chamfered corners, 11° normal clearance, 90° cutting edge angle and 15° wiper edge normal clearance;
- TE PER; TE PEL:
asymmetrical triangular inserts with chamfered corners, 20° normal clearance, 90° cutting edge angle and 20° wiper edge normal clearance;

- SN ENN:
symmetrical square insert with chamfered corners, 0° normal clearance, 75° cutting edge angle and 0° wiper edge normal clearance;
- SP EDR; SP EDL:
asymmetrical square insert with chamfered corners, 11° normal clearance, 75° cutting edge angle and 15° wiper edge normal clearance;
- SN ANN:
symmetrical square insert with 0° normal clearance, 45° cutting edge angle and 0° wiper edge normal clearance;
- SE EER; SE EEL:
asymmetrical square insert with 20° normal clearance, 75° cutting edge angle and 20° wiper edge normal clearance.

Inserts with wiper edges, without fixing hole are standardized only without chip breakers.

Table 17 gives the range of dimensions of these inserts.

4 Interchangeability

4.1 Tolerances

Indexable hardmetal (carbide) inserts specified in this International Standard are provided in the following tolerance classes in accordance with ISO 1832:

- a) inserts with 0° and 11° normal clearance (TP, SN and SP):

tolerance classes A, C and K, where class C is used mainly for coated inserts;
- b) inserts with 20° normal clearance (TE and SE):

tolerance class C.