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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 2077-2023

Replacing GB/T 2077-1987

Indexable carbide inserts - Corner radii

硬质合金可转位刀片 圆角半径

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document replaces GB/T 2077-1987 "Cemented carbide indexable insert fillet radius": Compared with GB/T 2077-1987, except in addition to structural adjustments and editorial changes, the main technical changes are as follows:

a) Added indexable insert fillet radius classification (see Chapter 4);

b) Added a schematic diagram of the fillet radius of non-circular blades (see 5.1);

c) Added turning insert corner radius without fillet, 0:03mm, 0:05mm, 0:1mm (see Table 1);

d) Added the corner radii of special turning inserts and milling inserts to 0:6mm, 1:0mm, 1:5mm, 3:0mm and 4:0mm (See Table 1);

e) Changed the fillet radius of non-circular blades from "2:4mm" to "2:5mm" (see 5.1, Chapter 1 of the 1987 edition);

f) Added the schematic diagram of the fillet radius of circular inserts and the fillet radius of circular turning (milling) inserts (see 5.2):

This document is modified to adopt ISO 3286:2016 "Single-point cutting tool fillet radius":

Compared with ISO 3286:2016, this document has made the following structural adjustments:

---Chapter 5 corresponds to Chapter 2 in ISO 3286:2016;

---Chapter 6 corresponds to Chapter 3 in ISO 3286:2016:

The technical differences between this document and ISO 3286:2016 and their reasons are as follows:

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---Added the classification of indexable insert fillet radius (see Chapter 4) to make the classification of carbide indexable inserts more standardized;

---Added the schematic diagram of the fillet radius of non-circular inserts and the fillet radius of turning inserts without fillet, 0:03mm, 0:05mm, 0:1mm (See 5.1), to adapt to the development of the industry;

---Added the corner radii of special turning inserts and milling inserts to 0:6mm, 1:0mm, 1:5mm, 3:0mm and 4:0mm (See 5.1), to adapt to industry development and improve the applicability of this document;

---Added a schematic diagram of the fillet radius of circular inserts and the fillet radius of circular turning (milling) inserts (see 5.2) to adapt to the development of the industry need;

---Deleted the imperial dimensions of the fillet radius in Table 1 of ISO 3286:2016, which is more suitable for my country's national conditions:

The following editorial changes have been made to this document:

---Deleted informative Appendix A and references:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the corner radius values for carbide indexable inserts:

This document applies to the tip rounding of single-edged carbide indexable inserts with rounded corners:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

There are no terms or definitions to be defined in this document:

4 Categories

Carbide indexable inserts are divided into non-circular inserts and circular inserts according to their shapes, and they are divided into turning inserts, milling inserts and drilling inserts according to their functions:

blade:

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5 Sizes

5.1

The schematic diagram of the fillet radius of non-circular blades is shown in Figure 1: The fillet radius of non-circular blades should comply with the provisions of Table 1:

Figure 1 Schematic diagram of fillet radius of non-circular inserts

Table 1 Fillet radius of non-circular inserts

Unit is millimeters

Turning insert corner radius repsilon Milling insert corner radius repsilon Drilling insert corner radius repsilon no rounded corners - -0:03 - -

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