

Dentistry - Laboratory cutters - Part 3: Carbide cutters  
for milling machines (ISO 7787-3:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 7787-3:2017 sisaldab Euroopa standardi EN ISO 7787-3:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 7787-3:2017 consists of the English text of the European standard EN ISO 7787-3:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.05.2017.	Date of Availability of the European standard is 24.05.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 11.060.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD

EN ISO 7787-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2017

ICS 11.060.20

Supersedes EN 27787-3:1993

English Version

## Dentistry - Laboratory cutters - Part 3: Carbide cutters for milling machines (ISO 7787-3:2017)

Médecine bucco-dentaire - Fraises de laboratoire -  
Partie 3: Fraises de laboratoire en carbure pour  
machines à fraiser (ISO 7787-3:2017)

Zahnheilkunde - Laborfräser - Teil 3: Metallfräser für  
Fräsmaschinen (ISO 7787-3:2017)

This European Standard was approved by CEN on 1 March 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

## European foreword

This document (EN ISO 7787-3:2017) has been prepared by Technical Committee ISO/TC 106 “Dentistry” in collaboration with Technical Committee CEN/TC 55 “Dentistry” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 27787-3:1993.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 7787-3:2017 has been approved by CEN as EN ISO 7787-3:2017 without any modification.

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms, definitions and symbols</b> .....	<b>1</b>
3.1 Terms and definitions.....	1
3.2 Symbols.....	2
<b>4 Requirements</b> .....	<b>2</b>
4.1 Material.....	2
4.2 Dimensions, shank and head shape.....	2
4.3 Cylindrical, side cutting only.....	2
4.4 Cylindrical, hemispherical.....	3
4.5 Conical, truncated, side cutting only.....	3
4.6 Run-out.....	4
<b>5 Sampling</b> .....	<b>4</b>
<b>6 Measurement and test methods</b> .....	<b>4</b>
6.1 Dimensions.....	4
6.2 Run-out.....	4
6.3 Pass/fail evaluation.....	4
<b>7 Designation code number</b> .....	<b>4</b>
<b>8 Marking</b> .....	<b>5</b>
<b>Bibliography</b> .....	<b>6</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 4, *Dental instruments*.

This second edition cancels and replaces the first edition (ISO 7787-3:1991), which has been technically revised with the following changes:

- a) normative references have been updated;
- b) definitions were added;
- c) clauses have been renumbered;
- d) bibliography was added.

A list of all parts in the ISO 7787 series can be found on the ISO website.

## Introduction

This document is one of a series of International Standards relating to dental rotary instruments.

The various dimensional and other requirements specified for carbide laboratory cutters are those considered important to ensure the interchangeability of these instruments.

# Dentistry — Laboratory cutters —

## Part 3: Carbide cutters for milling machines

### 1 Scope

This document specifies dimensional and other requirements for the three most commonly used carbide cutters for milling machines which are predominantly used in the dental laboratory.

Other characteristics of laboratory cutters (for example, spiralled blades or cross-cut) are not covered by this document.

Cutters intended for use with CAD/CAM systems are excluded from the scope of this document.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1797: 2017, *Dentistry — Shanks for rotary and oscillating instruments*

ISO 1942, *Dentistry — Vocabulary*

ISO 2157, *Dentistry — Nominal diameters and designation code numbers for rotary instruments*

ISO 8325, *Dentistry — Test methods for rotary instruments*

### 3 Terms, definitions and symbols

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

##### 3.1.1

##### **laboratory cutter**

cutting instrument designed for use with dental materials in the *dental laboratory* (3.1.2)

##### 3.1.2

##### **dental laboratory**

facility where dental technician procedures complementing dental clinical treatment are carried out

[SOURCE: ISO 1942:2009, 2.77]

##### 3.1.3

##### **milling machine**

device used in the *dental laboratory* (3.1.2) for milling of dental prosthetic parts