Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW-6060 and EN AW-6063

Part 2: Tolerances on dimensions and form
National foreword

This British Standard is the UK implementation of EN 12020-2:2016. It supersedes BS EN 12020-2:2008 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee NFE/35, Light metals and their alloys.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2016.
Published by BSI Standards Limited 2016

ISBN 978 0 580 91008 1

ICS 77.150.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2016.

Amendments/corrigenda issued since publication

Date Text affected
Aluminium and aluminium alloys - Extruded precision profiles in alloys EN AW-6060 and EN AW-6063 - Part 2: Tolerances on dimensions and form

This European Standard was approved by CEN on 4 March 2016.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.
## Contents

European foreword....................................................................................................................................................... 3  
1 Scope.................................................................................................................................................................... 4  
2 Normative references.................................................................................................................................... 5  
3 Tolerances on dimensions ........................................................................................................................... 5  
   3.1 General................................................................................................................................................................ 5  
   3.2 Cross-sectional dimensions......................................................................................................................... 5  
   3.3 Length.................................................................................................................................................................. 7  
   3.4 Squareness of cut ends................................................................................................................................. 8  
   3.5 Length offset for profiles with a thermal barrier ................................................................................ 8  
4 Tolerances on form ........................................................................................................................................ 8  
   4.1 Parallelism......................................................................................................................................................... 8  
   4.2 Straightness....................................................................................................................................................... 9  
   4.3 Convexity-Concavity .................................................................................................................................... 10  
   4.4 Contour ............................................................................................................................................................ 12  
   4.5 Twist ................................................................................................................................................................. 13  
   4.6 Angularity ....................................................................................................................................................... 15  
   4.7 Corner and fillet radii ................................................................................................................................. 16  
Bibliography................................................................................................................................................................. 18
European foreword

This document (EN 12020-2:2016) has been prepared by Technical Committee CEN/TC 132 “Aluminium and aluminium alloys”, the secretariat of which is held by AFNOR.

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 June 2017, and conflicting national standards shall be withdrawn at the latest by June 2017.

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

This document supersedes EN 12020-2:2008.

The following technical modifications have been introduced during the revision:

— subclause 4.1, Parallelism;
— subclause 4.2, Straightness;
— subclause 4.5, Twist.

EN 12020 comprises the following parts under the general title "Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW-6060 and EN AW-6063":

— Part 1: Technical conditions for inspection and delivery
— Part 2: Tolerances on dimensions and form

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.
1 Scope

This European Standard specifies tolerances on dimensions and form of extruded precision profiles, in alloys EN AW-6060 and EN AW-6063 manufactured with and without a thermal barrier (see Figures 1 and 2). It applies to extruded products supplied without further surface treatment. Precision profiles covered in this standard are distinguished from extruded profiles for general applications covered in EN 755-9 by the following characteristics:

— they are mainly for architectural applications;
— they meet more stringent requirements regarding the surface condition of visible surfaces;
— the maximum diameter of the circumscribing circle $CD$ is 350 mm;
— they are made to closer tolerances on dimensions and form.

In the case of profiles which, due to the complexity of their design, are difficult to manufacture and specify, then special agreements between supplier and purchaser may need to be reached.

Note The effect of the thermal barrier material on the dimensional tolerances is covered by this document although the actual thermal barrier material itself is not (see EN 14024).

Key

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$CD$ maximum 350 mm</td>
</tr>
</tbody>
</table>

Figure 1 — Profile without thermal barrier

Key

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$CD$ maximum 350 mm</td>
</tr>
<tr>
<td>2</td>
<td>thermal barriers</td>
</tr>
</tbody>
</table>

Figure 2 — Profile containing thermal barrier