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ALUMINIUM AND ALUMINIUM ALLOYS - FINSTOCK - PART 2: MECHANICAL PROPERTIES

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Foreword

This document (EN 683-2:2006) 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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

This document supersedes EN 683-2:1996.

Within its program of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 6 "Foil and finstock" to revise EN 683-2:1996.

The following modifications have been made:

— Table 1 has been split into Table 1 and Table 2;

— Table 1 and Table 2 give the mechanical properties for gauge ranges from 60 μm to 400 μm. Mechanical properties have been amended. Alloys EN AW-6060 and EN AW 6951 have been deleted.

EN 683 comprises the following parts under the general title "*Aluminium and aluminium alloys — Finstock":*

— *Part 1: Technical conditions for inspection and delivery*

— *Part 2: Mechanical properties*

— *Part 3: Tolerances on dimensions and form*

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

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1 Scope

This document specifies the mechanical properties of wrought aluminium and wrought aluminium alloy finstock.

The chemical composition limits of these materials are specified in EN 573-3, unless otherwise agreed between supplier and purchaser.

The designations of wrought aluminium and wrought aluminium alloys and the temper designations used in this standard are specified in EN 573-3, and the temper designations are defined in EN 515.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 683-1, *Aluminium and aluminium alloys — Finstock — Part 1: Technical conditions for inspection and delivery*

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature*

3 Tensile testing

The selection and number of specimens and test pieces shall be as specified in EN 683-1.

Tensile testing shall be carried out according to EN 10002-1 noting the following:

— applies to gauges between 60 μm and 400 μm ;

— test pieces shall be either parallel-sided (see Figure 1) or with shoulders and a reduced parallel section.

Parallel sided test pieces shall be prepared using a double bladed cutter (see Figure 2) or a precision ground sample shear of "punch and die" construction.

Shouldered test pieces shall have a similar sample shear or can be machined in packs using a milling-type cutter.

Parallel sided test pieces shall have a width of (15 ± 0,1) mm and a gauge length of (50 ± 1) mm or (100 ± 1) mm.

Shouldered test pieces shall be in accordance with EN 10002-1.

During the part of the test to determine proof stress, the strain rate shall not exceed 10 MPa/s. The strain rate can then be increased until rupture but it shall not exceed 50 % of the gauge length per minute.

Considering the difficulty in marking thin gauge material, the gauge length may be measured by the distance between the grips of the testing machine. The elongation is then determined from the difference in the distance between the grips before testing and at fracture, or by direct reading from the load vs crosshead displacement diagram when available. This provision only applies to parallel-sided test pieces.

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