Additive manufacturing - Material extrusion based additive manufacturing of plastic materials - Part 2: Process equipment (ISO/ASTM 52903-2:2020)

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO/ASTM 52903-2:2020 sisaldab Euroopa standardi EN ISO/ASTM 52903-2:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO/ASTM 52903-2:2020 consists of the English text of the European standard EN ISO/ASTM 52903-2:2020.
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 28.10.2020.	Date of Availability of the European standard is 28.10.2020.
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.

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Additive manufacturing - Material extrusion based additive manufacturing of plastic materials - Part 2: Process equipment (ISO/ASTM 52903-2:2020)

Fabrication additive - Fabrication additive de matériaux plastiques à base d'extrusion de matière - Partie 2: Équipement du procédé (ISO/ASTM 52903-2:2020)

Additive Fertigung - Materialextrusionsbasierende additive Fertigungsverfahren für Kunststoffe - Teil 2: Prozesszubehör (ISO/ASTM 52903-2:2020)

This European Standard was approved by CEN on 17 October 2020.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO/ASTM 52903-2:2020) has been prepared by Technical Committee ISO/TC 261 "Additive manufacturing" in collaboration with Technical Committee CEN/TC 438 “Additive Manufacturing” 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of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/ASTM 52903-2:2020 has been approved by CEN as EN ISO/ASTM 52903-2:2020 without any modification.

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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).

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

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 261, *Additive manufacturing*, in cooperation with ASTM F 42, on the basis of a partnership agreement between ISO and ASTM International with the aim to create a common set of ISO/ASTM standards on additive manufacturing.

This first edition of ISO/ASTM 52903-2 cancels and replaces ASTM 20196-2.

A list of all parts in the ISO/ASTM 52903 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, each system needs to be used independently of the other. Combining values from the two systems can result in non-conformance with this document.

Additive manufacturing — Material extrusion-based additive manufacturing of plastic materials —

Part 2: Process equipment

1 Scope

This document describes a method for defining requirements and assuring component integrity for plastic parts created using material extrusion based additive manufacturing processes. It relates to the process, equipment and operational parameters. Processes include all material extrusion based additive manufacturing processes.

This document is intended for use by AM users and customers procuring such parts.

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/ASTM 52900:—[1)], *Additive manufacturing — General principles — Fundamentals and vocabulary*

ISO/ASTM 52903-1, *Additive manufacturing —Material extrusion-based additive manufacturing of plastic materials — Part 1: Feedstock materials*

ISO/ASTM 52921, *Standard terminology for additive manufacturing — Coordinate systems and test methodologies*

ASTM F3091/F3091M, *Standard Specification for Powder Bed Fusion of Plastic Materials*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/ASTM 52900 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Process specification

4.1 General

According to the final quality of the part, the process may be classified under the following classes:

1) Under preparation. Current stage: ISO/ASTM FDIS 52900:2020.