Additive manufacturing - General principles - Requirements for purchased AM parts (ISO/ASTM 52901:2017)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO/ASTM 52901:2018 sisaldab Euroopa standardi EN ISO/ASTM 52901:2018 ingliskeelset teksti.	This Estonian standard EVS-EN ISO/ASTM 52901:2018 consists of the English text of the European standard EN ISO/ASTM 52901:2018.
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 17.10.2018.	Date of Availability of the European standard is 17.10.2018.
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.

ICS 25.030

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO/ASTM 52901

October 2018

ICS 25.030

English Version

Additive manufacturing - General principles - Requirements for purchased AM parts (ISO/ASTM 52901:2017)

Fabrication additive - Principes généraux - Exigences pour l'achat de pièces (ISO/ASTM 52901:2017)

Additive Fertigung - Grundlagen - Anforderungen an die Beschaffung von additiv gefertigten Bauteilen (ISO/ASTM 52901:2017)

This European Standard was approved by CEN on 18 June 2018.

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: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO/ASTM 52901:2018 E

European foreword

The text of ISO/ASTM 52901:2017 has been prepared by Technical Committee ISO/TC 261 "Additive manufacturing" of the International Organization for Standardization (ISO) and has been taken over as EN ISO/ASTM 52901:2018 by 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 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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, 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/ASTM 52901:2017 has been approved by CEN as EN ISO/ASTM 52901:2018 without any modification.

Contents

Page

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).

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).

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.

The committee responsible for this document is ISO/TC 261, *Additive manufacturing* in cooperation with ASTM F42, *Additive Manufacturing Technologies*, 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.

Introduction

This document covers the definition and communication of requirements for purchased parts made by additive manufacturing. It is intended to enable efficient and unambiguous communication between the part providers and the customers of parts made by additive manufacturing to ensure that the resulting part meets the customer's requirements. It is intended that the document is used by the part providers and/or the customers of parts made by additive manufacturing.

This document is a top-level standard in the hierarchy of additive manufacturing standards in that it is intended to apply to parts made by any additive manufacturing process and any material type. The document allows for different requirements based on the classification of the criticality and expected end use of the parts made by additive manufacturing.

Additive manufacturing — General principles — Requirements for purchased AM parts

1 Scope

This document defines and specifies requirements for purchased parts made by additive manufacturing.

It gives guidelines for the elements to be exchanged between the customer and the part provider at the time of the order, including the customer order information, part definition data, feedstock requirements, final part characteristics and properties, inspection requirements and part acceptance methods.

It is applicable for use as a basis to obtain parts made by additive manufacturing that meet minimum acceptance requirements. More stringent part requirements can be specified through the addition of one or more supplementary requirements at the time of the order.

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 17296-3, *Additive manufacturing — General principles — Part 3: Main characteristics and corresponding test methods*

ISO/ASTM 52900, *Additive manufacturing — General principles — Terminology*

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

ASTM F 3122, *Standard Guide for Evaluating Mechanical Properties of Metal Materials Made via Additive Manufacturing Processes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/ASTM 52900 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
pre-shipment inspection
inspection carried out by the part producer on the parts to be supplied according to the part definition or on the test units in order to verify that these parts are in compliance with the order requirements

3.2
qualification part
part fabricated prior to commencing production which is used to qualify specific aspects of the manufacturing process or part characteristics in order to use as a basis to initiate production