# SLOVENSKI STANDARD
# SIST EN ISO/ASTM 52909:2023

**01-marec-2023**

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**Aditivna proizvodnja kovin - Lastnosti končnih delov - Orientacija in lokacija v odvisnosti od mehanskih lastnosti za spajanje kovinskega prahu v postelji (ISO/ASTM 52909:2022)**

Additive manufacturing of metals - Finished part properties - Orientation and location dependence of mechanical properties for metal powder bed fusion (ISO/ASTM 52909:2022)



Additive Fertigung von Metallen - Eigenschaften von Fertigteilen - Orientierung und Lage in Abhängigkeit der mechanischen Eigenschaften für pulverbettbasiertes Schmelzen von Metallen (ISO/ASTM 52909:2022)



Fabrication additive de métaux - Propriétés des pièces finies - Dépendance de l'orientation et de l'emplacement sur les propriétés mécaniques pour la fusion sur lit de poudre métallique (ISO/ASTM 52909:2022)

**Ta slovenski standard je istoveten z:** **EN ISO/ASTM 52909:2022**

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**ICS:**

| | | |
|---|---|---|
| 25.030 | 3D-tiskanje | Additive manufacturing |

**SIST EN ISO/ASTM 52909:2023** **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO/ASTM 52909

November 2022

ICS 25.030

English Version

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This European Standard was approved by CEN on 25 April 2022.



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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 52909:2022) 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

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## Endorsement notice

The text of ISO/ASTM 52909:2022 has been approved by CEN as EN ISO/ASTM 52909:2022 without any modification.

INTERNATIONAL STANDARD

**ISO/ASTM 52909**

First edition
2022-10

# Additive manufacturing of metals — Finished part properties — Orientation and location dependence of mechanical properties for metal powder bed fusion

*Fabrication additive de métaux — Propriétés des pièces finies — Dépendance de l'orientation et de l'emplacement sur les propriétés mécaniques pour la fusion sur lit de poudre métallique*



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# Foreword

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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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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.



The document was prepared by Technical Committee ISO/TC 261, *Additive manufacturing*, in cooperation with ASTM Committee 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, and in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 438, *Additive manufacturing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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# Introduction

AM produced metallic parts are being intensively developed and used more widely today with an expected faster growth in near future. This document aims to support customers' needs to address specifics of the AM deposited parts – location and orientation dependent local properties and their variations over the part or deposition chamber.

This document provides a list of accurate terminologies and existing standards dedicated to mechanical testing of metallic materials, guidance on designation of coordinate systems and their application to AM specimens/parts designation, and recommendations on possibilities for local properties measurement.