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TNI	**Aditívna výroba Surovinové materiály Časť 1: Usmernenie na výber metód merania na charakterizáciu tokových vlastností prášku (ISO/ASTM TR 52913-1: 2025)**	**TNI CEN ISO/ASTM TR 52913-1 18 8531**

Additive manufacturing - Feedstock materials - Part 1: Guidelines for the selection of measurement methods for characterization of powder flow properties (ISO/ASTM TR 52913-1:2025)

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TECHNICAL REPORT

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CEN ISO/ASTM TR 52913-1

October 2025

ICS 25.030

English Version

Additive manufacturing - Feedstock materials - Part 1: Guidelines for the selection of measurement methods for characterization of powder flow properties (ISO/ASTM TR 52913-1:2025)

Fabrication additive - Matières premières - Partie 1: Lignes directrices pour la caractérisation des propriétés d'écoulement de la poudre (ISO/ASTM TR 52913-1:2025)

Additive Fertigung - Ausgangsmaterialien - Teil 1: Parameter für die Charakterisierung von Pulverfließeigenschaften (ISO/ASTM TR 52913-1:2025)

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European foreword

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Additive manufacturing — Feedstock materials —

Part 1: Guidelines for the selection of measurement methods for characterization of powder flow properties

Fabrication additive — Matières premières —

Partie 1: Lignes directrices pour la caractérisation des propriétés d'écoulement de la poudre

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Foreword

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This 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, 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

The increased application of additive manufacturing creates a demand by stakeholders for a guidance document which describes process characteristics and performance regarding general test methods for the characterization of powder flow properties. In powder feedstock based processes, the flow properties of the powder are of decisive importance related to the process reliability of an additive manufacturing process and the quality of the manufactured parts. Characterization of powder flow properties is subject to numerous variables. The meaningfulness of the results of the measurement therefore depends on these variables. However, complete consideration of all variables might be neither cost-effective or time effective. Therefore, when measuring the flow properties, the nature and scope of the measurements to be conducted is an important issue.

The information contained in the document is applicable to the conditions that have an influence on flow properties, and the necessary information in a test report.

This information is provided is of interest to test equipment manufacturers, material suppliers, additive machine manufacturers, and additive manufacturing machine users.

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Technical Report **ISO/ASTM TR 52913-1:2025(en)**

Additive manufacturing — Feedstock materials —

Part 1: Guidelines for the selection of measurement methods for characterization of powder flow properties

1 Scope

The document offers guidance on the selection of an appropriate method(s) to measure the flow properties of powders for powder feedstock based additive manufacturing processes. This document offers several definitions and parameters that affect powder flowability, in addition to several references for additional definitions and parameters.

It is intended that the guidance provided in this document not only applies to the virgin condition of the powder but also the used powder as a result of any number of successive builds. It is well known that the physical behaviour of the powder is also affected by the manufacturing process itself during the recovery and sieving cycles of the powder during the production processes. This condition of the powder going back into the system can be called out and monitored from successive builds to detect any drift of the powder properties.

This document applies to:

— the conditions that have an influence on flow properties, and

— the necessary information in a test report.

This document is aimed for test equipment manufacturers, material suppliers, additive machine manufacturers, and additive manufacturing machine users.

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, *Additive manufacturing — General principles — Fundamentals and vocabulary*

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