



# SLOVENSKI STANDARD SIST EN ISO 27548:2025

01-marec-2025

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**Dodajalna izdelava plastičnih izdelkov - Okolje, zdravje in varnost - Preskusna metoda za določanje stopnje emisije delcev in kemikalij iz namiznih 3D tiskalnikov za iztiskavanje materiala (ISO 27548:2024)**

Additive manufacturing of plastics - Environment, health, and safety - Test method for determination of particle and chemical emission rates from desktop material extrusion 3D printer (ISO 27548:2024)

Additive Fertigung von Kunststoffen - Umwelt, Gesundheit und Sicherheit - Prüfverfahren zur Bestimmung der Partikelemissionsrate und der chemischen Emissionsrate von materialextrusionsbasierten Desktop-3D-Druckern (ISO 27548:2024)

Fabrication additive de plastiques - Environnement, santé et sécurité - Méthode d'essai pour la détermination des taux d'émission de particules et de produits chimiques des imprimantes 3D de bureau par extrusion de matériau (ISO 27548:2024)

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**Ta slovenski standard je istoveten z: EN ISO 27548:2024**

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**ICS:**

13.040.40	Emisije nepremičnih virov	Stationary source emissions
13.100	Varnost pri delu. Industrijska higiena	Occupational safety. Industrial hygiene
25.030	3D-tiskanje	Additive manufacturing
83.080.01	Polimerni materiali na splošno	Plastics in general

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**en,fr,de**



EUROPEAN STANDARD

EN ISO 27548

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 13.040.30; 13.100; 25.030

English Version

Additive manufacturing of plastics - Environment, health,  
and safety - Test method for determination of particle and  
chemical emission rates from desktop material extrusion  
3D printer (ISO 27548:2024)

Fabrication additive de plastiques - Environnement,  
santé et sécurité - Méthode d'essai pour la  
détermination des taux d'émission de particules et de  
produits chimiques des imprimantes 3D de bureau par  
extrusion de matériau (ISO 27548:2024)

Additive Fertigung von Kunststoffen - Umwelt,  
Gesundheit und Sicherheit - Prüfverfahren zur  
Bestimmung der Partikelemissionsrate und der  
chemischen Emissionsrate von  
materialextrusionsbasierten Desktop-3D-Druckern  
(ISO 27548:2024)

This European Standard was approved by CEN on 6 July 2024.

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## European foreword

This document (EN ISO 27548:2024) 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 January 2025, and conflicting national standards shall be withdrawn at the latest by January 2025.

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**International  
Standard**

**ISO 27548**

**Additive manufacturing of  
plastics — Environment, health,  
and safety — Test method for  
determination of particle and  
chemical emission rates from  
desktop material extrusion 3D  
printer**

*Fabrication additive de plastiques — Environnement, santé  
et sécurité — Méthode d'essai pour la détermination des  
taux d'émission de particules et de produits chimiques des  
imprimantes 3D de bureau par extrusion de matériau*

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## ISO 27548:2024(en)

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## ISO 27548:2024(en)

### 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.

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This document was prepared by Technical Committee ISO/TC 261, *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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**ISO 27548:2024(en)****Introduction**

Academic communities have been releasing several papers warning that a significant number of particles and chemical substances emitted from material extrusion (MEX) AM processes commonly used in schools, private homes and similar non-industrial environments would be hazardous to humans when inhaled and absorbed into the human body.

However, currently, there is no well-known test method to measure particle and chemical substances emitted from desktop MEX-TRB/P machines, commonly called "3D printers" installed in the office environment, classroom, and residential space.

Therefore, the goal of this document is to provide test procedures in line with specific operating conditions for measuring particle and chemical emission rates emitted from desktop MEX-TRB/P machine, also known as a 3D printer which is widely used in the national marketplace.

Manufacturers of desktop MEX-TRB/P machines, also known as 3D printers, will be able to take advantage of this document to develop and improve their products by minimizing particle and chemical emission rates, and the end-users also would purchase more safe and improved machines from the market.

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