SLOVENSKI STANDARD
SIST EN 50632-1:2015/A1:2019

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Elektromotorna orodja - Postopek meritve prahu - 1. del: Splošne zahteve - Dopolnilo A1

Electric motor-operated tools - Dust measurement Procedure - Part 1: General requirements

Motorbetriebene Elektrowerkzeuge - Staubmessverfahren - Teil 1: Allgemeine Anforderungen

Outils électriques à moteur - Procédure de mesure de la poussière - Partie 1: Exigences générales

Ta slovenski standard je istoveten z: **EN 50632-1:2015/A1:2019**

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EUROPEAN STANDARD

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English Version

Electric motor-operated tools - Dust measurement Procedure - Part 1: General requirements

Outils électriques à moteur - Procédure de mesure de la poussière - Partie 1: Exigences générales

Motorbetriebene Elektrowerkzeuge - Staubmessverfahren - Teil 1: Allgemeine Anforderungen

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Contents

European foreword

This document (EN 50632-1:2015/A1:2019) has been prepared by CLC/TC 116 “Safety of motor-operated electric tools”.

This amendment was developed to include modifications suggested by practical tests.

The following dates are fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-01-15
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2022-01-15

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1 Modification to 4.1

Add *the following Note at the end of 4.1:*

NOTE Practical tests have shown that the variation of the results can be reduced

- when the distance between the work surface and the operator is kept constant;
- when the posture changes of the operator are minimized;
- when the posture of the operator is as close to real working conditions

during the test.

2 Modification to 4.2

Replace *the existing fourth dash with the following:*

- large enough to ensure a distance between the tool and the walls of at least 2,0 m;
- apart from the equipment required for the test, the test room shall be as empty as possible, so that the 200 m^3 requirement is not compromised and no unnecessary surfaces are created.

Replace *the existing second and third paragraphs with the following:*

During the test, **dust samplers** are carried by the operator on the upper chest zone. The number of **dust samplers** shall be:

- if both **inhalable dust** and **respirable dust** are measured: two **dust samplers** for the **respirable dust**, one on each side of the upper chest zone, and a third **dust sampler** for the **inhalable dust** on the chest below the other two **dust samplers**. This sampler shall not influence the other two **dust samplers**;
- if only the **inhalable dust** is measured: two **dust samplers**, one on each side of the upper chest zone.

If the tests are done by robotic means, the **dust samplers** shall be placed at a place to replicate the upper chest zone of an operator. The **dust samplers** shall remain working throughout the entire time of each test as defined in 4.3.

The **dust samplers** shall comply with EN 13205 (all parts) and shall be suitable for the determination of the concentration of **inhalable dust** and, if required, for **respirable dust**, as specified in EN 481.

3 Modification to 4.3

Replace *the existing first paragraph with the following:*

All tests shall be done at an ambient temperature of $20° \, ^{+10}_{-5}$ °C and at a relative ambient humidity of maximum 75 %.

Add *the following Note after the existing second paragraph:*

NOTE 1 The cooling air outlet of the tool can have an influence on the result if directed towards the dust sampling devices.

Replace *the existing Note in the first dash with the following:*

NOTE 2 Examples for instructions in a manual are requests to obey the warning signal of a class M **dust** extractor or to keep the air flow in a certain range.

NOTE 3 Emptying after three test cycles is understood as the earliest opportunity for emptying, but not as a regular action at that point of time.

***Add** the following after the existing second dash:*

- It shall be ensured that
  - the exhaust air of an external dust extractor is not directed towards the **dust samplers**; and
  - the dust extractor is not moved more than the work process requires during the test.

***Replace** the existing last paragraph with the following:*

Three tests shall be carried out by one operator. The result shall be one concentration value for each test and **dust** type. The mean value of the two **dust samplers** for the same fraction at the operator shall be taken. The **dust samplers** shall operate during the entire time needed for each of the three tests.

NOTE 4 It is important that the operating and work conditions are kept stable.

4 Additional subclause 4.4

***Add** the following new subclause:*

4.4 Acceptance criteria

The coefficient of variation C_V of a test series, defined as the ratio of the standard deviation of a series of measurement values and the mean values of series, shall be determined.

$$C_V = \frac{s_R}{\bar{c}}$$

The standard deviation s_R is calculated as follows:

$$s_R = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(c_i - \bar{c})^2}$$

with

N = 3 (number of tests)

c_i = concentration value of one test

$\bar{c}$ = mean value (average concentration value of three tests)

If the coefficient of variation C_V of the three concentration values, recorded for each series, is less than 0,5, the results are accepted.

5 Modification to 5.1

***Replace** the existing text of 5.1 with the following:*

The voltage at the plug of the cable or cord of mains-powered tools is measured with voltmeters having an accuracy of ± 1,5 %.

The voltage at the battery terminals of battery-powered tools is measured with voltmeters having an accuracy of ± 1,5 %.

6 Modification to Clause 6

Replace *the existing item l with the following:*

l) uncertainty *K* in mg/m^3 as an indication of the measured deviation from the mean value for the **dust** concentration during the test;

the uncertainty *K* shall be determined as follows:

$K = 1{,}65\ s_R$

where

s_R = standard deviation;