



SLOVENSKI STANDARD

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Oprema za zimska vzdrževalna dela - Posipalnik - 1. del: Splošne zahteve in definicije za posipalnike

Winter maintenance equipment - Spreading machines (gritting machines) - Part 1: General requirements and definitions for spreading machines

Winterdienstausrüstung - Streumaschinen - Teil 1: Allgemeine Anforderungen und Angaben für Streumaschinen

Équipement de viabilité hivernale - Épanduses - Partie 1: Exigences générales et définitions relatives aux épanduses

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Winter maintenance equipment - Spreading machines (gritting machines) - Part 1: General requirements and definitions for spreading machines

Équipement de viabilité hivernale - Épanduses - Partie 1 :
Exigences générales et définitions relatives aux
épanduses

Winterdiensttausrüstung - Streumaschinen - Teil 1:
Allgemeine Anforderungen und Angaben für
Streumaschinen

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EN 15597-1:2009 (E)

Foreword

This document (EN 15597-1:2009) has been prepared by Technical Committee CEN/TC 337 “Winter maintenance and road service area maintenance equipment”, 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of an identical text or by endorsement, at the latest by April 2010, and conflicting national standards shall be withdrawn at the latest by April 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

This document is meant to assess the demands made on mobile spreading machines operated in traffic. Spreaders/gritters are to be operated in such way that homogeneous distribution of spreading agents is given within the set spreading dosage, spreading width and spreading track asymmetry.

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EN 15597-1:2009 (E)**1 Scope**

Demands on design and construction of bulk spreaders, trailer spreaders and towed spreaders with speed related spreading for winter service are determined by this document. At the same time, information is given on the minimum content required for operating manuals.

The standard is valid for machines which are used to spread the following media:

- a) spreading agents with or without pre-wetted agent;
- b) abrasive spreading agents;
- c) brine.

The following points are not covered by this standard:

- requirements for registration and approval;
- requirements made by automobile manufacturers;
- requirements on safety – these are dealt with in EN 13021.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 13021, *Winter service machines — Safety requirements* [SIST EN 15597-1:2010](https://standards.iteh.ai/catalog/standards/sist/267ea740-f782-4181-9567-1c41952459b7/sist-en-15597-1-2010)

EN 15144:2007, *Winter maintenance equipment — Terminology — Terms for winter maintenance*

EN 15430-1, *Winter and road service area maintenance equipments — Data acquisition and transmission — Part 1: In vehicle data acquisition*

EN 15431, *Winter and road service area maintenance equipments — Power system and related controls — Interchangeability and performance requirements*

EN 15432, *Winter and road service area maintenance equipments — Front-mounted equipments — Interchangeability*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15144:2007 apply.

4 Requirements

4.1 General

The spreading machine shall be designed in such a way that handling and easy adjustment for various spreading agents under various spreading conditions (e.g. different speeds) are ensured. Selected dosage shall be spread homogeneously within the set spreading width and spreading track asymmetry.

Table 1 — Solid and pre-wetted thawing agent

Conditions	Driving speed	Spreading dosage	Spreading width
	km/h	g/m ²	m
Minimum	10	5	2
Nominal	30 – 60	5 – 30	2 – 12
Maximum	80	40	12

Table 2 — Abrasive spreading agent

Conditions	Driving speed	Spreading dosage	Spreading width
	km/h	g/m ²	m
Minimum	10	20	2
Nominal	20 – 40	50 – 150	2 – 6
Maximum	50	250	8

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Table 3 — Liquid thawing spreading agent (brine)

Conditions	Driving speed	Spreading dosage	Spreading width
	km/h	g/m ²	m
Minimum	10	15	3,5
Nominal	30 – 50	15 – 60	3,5 – 10,5
Maximum	60	80	14

The spreading machine shall be able to spread a total amount of spreading agents at least 70 % of the maximum of setting values.

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4.2 Requirements on dosage of spreading agents

Requirements on dosage are shown in Table 4. The test method is given in Annex A.

Table 4 — Requirements on dosage of spreading agents

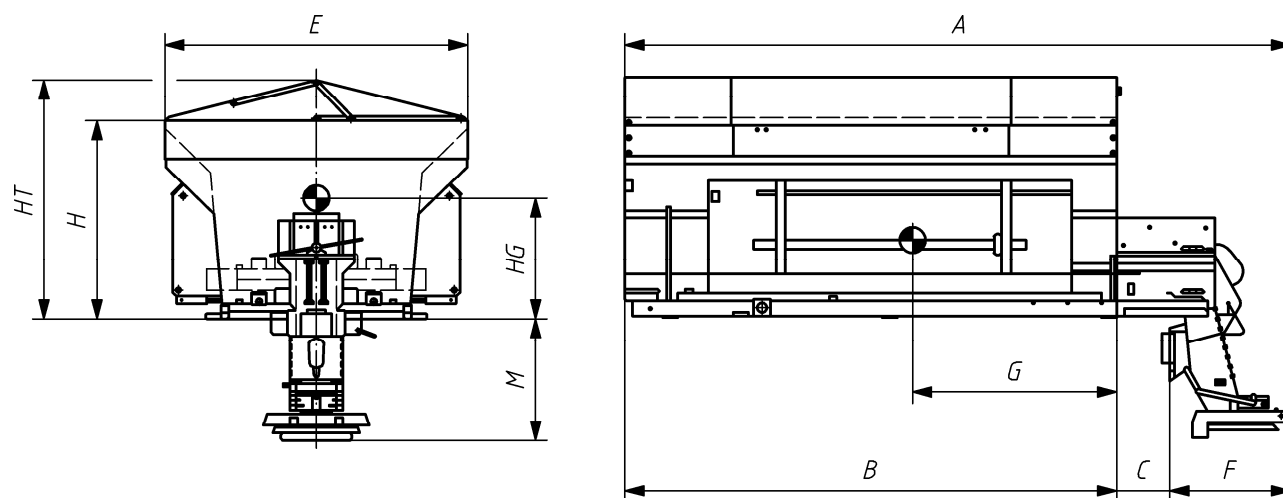
Spreading agents	admitted deviation %
Solid thawing media (with pre-wetting liquids measured separately)	± 6
Abrasive spreading agent	± 15
Liquid spreading agent (brine)	± 6

A positive deviation up to 3 kg/min for total amount is acceptable when the required amount spread is less than 10 kg/min.

4.3 Technical information

Producer of spreading machine shall supply the:

- technical data as given in the key of Figure 1;
- minimum and maximum spreading parameters (see Tables 1 to 3);
- range of spreading track asymmetry according to spreading pattern;
- spreading agents type usable;
- spreading technology.

**Key**

- A total length
 - B maximum external hopper length
 - C free distance between hopper and chute
 - E maximum external width
 - F total length of spreading group (disc + chute)
 - G distance from the centre of gravity to the rear part of the hopper
 - H height of the hopper from the loading surface of the carrying vehicle
 - HG height of the centre of gravity from the loading surface of the carrying vehicle
 - HT total height of the hopper from the loading surface of the carrying vehicle
 - M distance between spreading disc and loading surface of the carrying vehicle
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Auxiliary dimensions description:

- G_{H1} distance from the centre of gravity to the rear part of the hopper when loaded with solid material until H level
- G_{H2} distance from the centre of gravity to the rear part of the hopper when loaded with solid material until H level and liquid material full tank
- G_{H3} distance from the centre of gravity to the rear part of the hopper when loaded with solid material until HT level
- G_{H4} distance from the centre of gravity to the rear part of the hopper when loaded with solid material until HT level and liquid material full tank
- H_{G1} height of the centre of gravity from the loading surface of the carrying vehicle when solid material is loaded until H level
- H_{G2} height of the centre of gravity from the loading surface of the carrying vehicle when solid material is loaded until HT level
- H_{G3} height of the centre of gravity from the loading surface of the carrying vehicle when solid material is loaded until H level and liquid material full tank
- H_{G4} height of the centre of gravity from the loading surface of the carrying vehicle when solid material is loaded until HT level and liquid material full tank

Figure 1 — Dimensions of spreading machines (G quote centre of gravity)