

SVENSK STANDARD

SS-EN 15597-1:2020

**Utrustning för underhåll av vintervägar – Spridningsmaskiner
(halkbekämpningsmaskiner) –
Del 1: Allmänna krav och definitioner för spridningsmaskiner**

**Winter maintenance equipment – Spreading and spraying
machines –
Part 1: General requirements and definitions**



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Europastandarden EN 15597-1:2020 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 15597-1:2020.

Denna standard ersätter SS-EN 15597-1:2009, utgåva 1.

The European Standard EN 15597-1:2020 has the status of a Swedish Standard. This document contains the official version of EN 15597-1:2020.

This standard supersedes the SS-EN 15597-1:2009, edition 1.

EUROPEAN STANDARD

EN 15597-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2020

ICS 13.030.40

Supersedes EN 15597-1:2009

English Version

Winter maintenance equipment - Spreading and spraying machines - Part 1: General requirements and definitions

Équipement de viabilité hivernale - Épanduses -
Partie 1 : Prescriptions générales et définitions

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

This European Standard was approved by CEN on 2 September 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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SS-EN 15597-1:2020 (E)

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European foreword

This document (EN 15597-1:2020) has been prepared by Technical Committee CEN/TC 337 “Road operation equipment and products”, 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of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15597-1:2009.

EN 15597, *Winter maintenance equipment - Spreading and spraying machines*, is composed with the following parts:

- *Part 1: General requirements and definitions;*
- *Part 2: Requirements for distribution and their test.*

EN 15597-1:2020 includes the following significant technical changes with respect to EN 15597-1:2009:

- deletion of Annex A for static test, this is reported in EN 15597-2;
- deletion of the operating manual requirement as this is specified in EN 17106-3-2¹;
- a new figure for spraying machine has been added;
- the tolerances for dosage have been modified from 6 % to 6,5 %;
- the high of spreading trajectory has been modified from 600 mm to 700 mm.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

¹ Under preparation. Stage at the time of publication: FprEN 17106-3-2

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Introduction

This document is meant to assess the demands made on mobile spreading/spraying/gritting machines operated in traffic.

For simplicity, in this document all machines are called “spreaders” also for liquid agent spraying and gritters.

Spreaders are bound 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.

In this document the following aspects are reported:

- type of spreading machines and their main performances;
- dosage tolerances admitted;
- main functions, applications;
- interface to be connected with external equipment.

This document does not refer to the yearly test done by the users on the machines in order to check the good status during their life.

1 Scope

This document specifies the requirements on design and construction of bulk spreaders and sprayers, trailer spreaders and towed spreaders with speed related spreading for winter service. This document also deals with information about the minimum content required for operating manuals.

The document is valid for machines, which are used to spread the following spreading agents:

- not pre-wetted and pre-wetted spreading agents;
- abrasive spreading agents;
- liquid spreading agents (brine).

This document is not applicable to:

- requirements for registration and approval;
- requirements made by automobile manufacturers;
- requirements on safety, which are dealt with in EN 17106-1² and EN 17106-3-2³.

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.

EN 15144, *Winter maintenance equipment - Terminology - Terms for winter maintenance*

EN 15430-1, *Winter and road service area maintenance equipment - 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 60529, *Degrees of protection provided by enclosures (IP Code)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

NOTE Spreader types are defined by using different spreading parameters and spreading agents according to Table 1 and Table 2.

² Under preparation. Stage at the time of publication: FprEN 17106-1

³ Under preparation. Stage at the time of publication: FprEN 17106-3-2

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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.

4.2 Type of spreading machines

The following Table 1 and Table 2 are showing the type of spreading machines related to their performances and spreading agent.

Table 1 — Spreader types for not pre-wetted or pre-wetted spreading agent

Type	Spreading width	Asymmetric spreading maximum limits		Spreading dosage	Vehicle speed	Maximum quantity
	m.	left	right	(g/m ²)	(km/h)	(kg/min)
A	2 to 6	5	1	5 to 40	5 to 40	120
		2	4			
B	3 to 8	6	2	5 to 40	5 to 60	240
		3	5			
C	3 to 12	9	3	5 to 40	5 to 80	320
		4	8			

Type C performances are related to the type of solid spreading agent used.

Table 2 — Spreader type for liquid spreading agent

Type	Spraying width (m)	Asymmetric spraying maximum limits		Width step (m)	Spraying dosage (g/m ²)	Vehicle speed (km/h)	Maximum quantity (kg/min)
		left	right				
A	2 to 6	5	1	1	10 to 40	5 to 40	160
		2	4				
B1	4 to 12	6	2	1	10 to 50	5 to 80	490
		2	6				
B2	4 to 12	6	2	1	10 to 70	5 to 80	735*
		2	6				

NOTE B2 — maximum quantity is calculated with 12 m with 70 g/m² at 52,5 km/h.

In case of spreading working in countries with left hand drive, the asymmetric spreading maximum limits shall be reversed.

4.3 Requirements on dosage tolerances of spreading agents

Requirements on dosage tolerances are shown in Table 3.

The test method is described in EN 15597-2:2019, 6.3 "Procedure of static test".

Table 3 — Requirements on dosage of spreading agent

Spreading agent	Admitted deviation
Not pre-wetted agents	±6,5 %
Pre-wetted agents (with spreading agent measured separately)	±6,5 %
Liquid spreading agent (brine)	±6,5 %
Abrasive spreading agents	±15,5 %

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

4.4 Technical information

Producer of spreading machine shall supply the:

- a) technical data as given in the key (see Table 4) of Figure 1;
- b) minimum and maximum spreading parameters (see Tables 1 to 2);
- c) range of spreading track asymmetry according to spreading pattern;
- d) spreading agents type usable.

4.5 Dimensional features

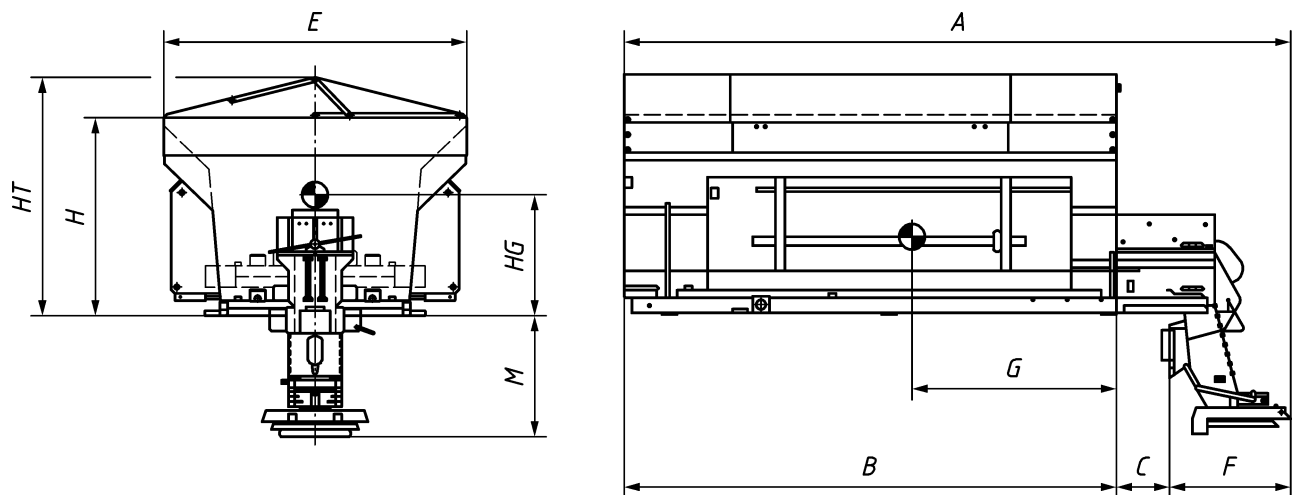


Figure 1a — Dimensions of spreading machines