

Teknisk specifikation

SIS-CEN/TS 15597-2:2012

Publicerad/Published: 2012-04-16
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 43.160

Utrustning för underhåll av vintervägar – Spridningsmaskiner (halkbekämpningsmaskiner) – Del 2: Krav på fördelning av spridningsmaterial samt på motsvarande provningsmetoder

Winter maintenance equipment – Spreading machines (gritting machines) – Part 2: Requirements for distribution and its test

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-86003>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Denna tekniska specifikation är inte en svensk standard. Detta dokument innehåller den engelska språkversionen av CEN/TS 15597-2:2012.

This Technical Specification is not a Swedish Standard. This document contains the English version of CEN/TS 15597-2:2012.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i detta dokument lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om nationell och internationell standard.

Information about the content of this document is available from the SIS, Swedish Standards Institute, telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about national and international standards.

Dokumentet är framtaget av kommittén för Utrustning för vägunderhåll, SIS/TK 455.

Har du synpunkter på innehållet i det här dokumentet, vill du delta i ett kommande revideringsarbete eller vara med och ta fram standarder inom området? Gå in på www.sis.se - där hittar du mer information.

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 15597-2

January 2012

ICS 43.160

English Version

Winter maintenance equipment - Spreading machines (gritting machines) - Part 2: Requirements for distribution and its test

Winterdiensttausrüstung - Streumaschinen - Teil 2:
Anforderungen an die Streustoffverteilung und deren
Prüfung

This Technical Specification (CEN/TS) was approved by CEN on 29 August 2011 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Definition of spreader type	7
5 Test materials	7
6 Certification procedure	8
6.1 Principle of qualification procedure	8
6.2 Identification and requirements on spreader types	8
6.3 Procedure of the static test	9
6.3.1 General	9
6.3.2 Description of static qualification tests per spreader type	9
6.3.3 Method of the static test	11
6.3.4 Requirements on performance	12
6.3.5 Development of the tests	12
6.4 Dynamic test procedure	12
6.4.1 Test parameters	12
6.4.2 Dynamic test method	16
Annex A (normative) Components having an influence on the spreading parameters	22
A.1 Type of spreader with solid thawing media	22
A.2 Type of spreader with liquid thawing media	22
Bibliography	23

Foreword

This document (CEN/TS 15597-2:2012) 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.

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.

This European standard comprises two parts:

- EN 15597-1, *Winter maintenance equipment — Spreading machines (gritting machines) — Part 1: General requirements and definitions for spreading machines*;
- CEN/TS 15597-2, *Winter maintenance equipment — Spreading machines (gritting machines) — Part 2: Requirements for distribution and its test*.

This Technical Specification was prepared with the aim of having a 3-year lifetime.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

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

Spreading machines (spreaders/gritters) are to be operated in such way that homogeneous distribution of spreading media is given within the set spreading dosage, width and spreading pattern track.

Due to the different kind of thawing materials used and a lack of experience to detect the exact quantity of thawing material spread on the road, CEN/TC 337 decided to publish a Technical Specification giving the possibility to all the operators to test different methods to determine the precision of the spreading pattern. Therefore the test methods have not been specified in detail in this Technical Specification. But the required accuracy of the measuring methods is given.

1 Scope

This Technical Specification gives the possibility to certify a model of vehicle-mounted or (trailer-)dragged spreading machines for winter service with standard parameters, leaving the possibility for the manufacturer to evolve performance. At the same time, information is given on the minimum content required for operating manuals.

This Technical Specification is valid for machines which are used to spread the following media:

- solid thawing media with or without pre-wetted media;
- liquid thawing media.

The following points are not covered by this Technical Specification:

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

EN 15597-1, *Winter maintenance equipment — Spreading machines (gritting machines) — Part 1: General requirements and definitions for spreading machines*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

machine model

machine model that includes a spreader of thawing material for road maintenance and its control box

3.2

spreader types

spreader types as defined by using different spreading parameters according to Tables 1 and 2

3.3

test materials

test materials as defined in Clause 5

3.4

test

test realised with different spreading parameters (dosage, spreading width and vehicle speed), for a machine model, a test material and a spreader type

**3.5
qualification**

qualification of a machine model that states the conformity to the requirements defined in this standard

NOTE The compliance with these requirements is verified by a series of static and dynamic tests defined for a type of spreader and a test material.

**3.6
test report**

document in which the whole conditions and test results for a qualification are recorded

**3.7
technical certificate**

technical certificate that is set for a qualified machine model

NOTE If several qualifications of the same model are realised with different combinations of "test material / spreader type", the whole test results of the different qualifications will be reported on the same technical certificate.

**3.8
measurement points**

whole measured data in the static test, which are calculated or set according to the frequency

**3.9
outer strips**

two strips of 1 m width which border the left and right side of a theoretical measurement area

**3.10
measurement area**

area, in the dynamic test, corresponding to the defined spreading length multiplied by the set theoretical spreading width, and which is the effective area for collecting the spreading agent

**3.11
total collecting area**

measurement area plus the two outer strips

**3.12
effective average dosage**

ratio of the total mass collected on the measurement area

**3.13
theoretical dosage**

value set on the control box in g/m^2

**3.14
theoretical total amount**

theoretical dosage multiplied by the measurement area

**3.15
total amount**

complete mass collected on a measurement area

**3.16
effective average dosage in a strip**

total amount of test material collected in this strip, divided by the strip surface area

4 Definition of spreader type

Some spreaders types are defined by using the following range of minimum and maximum parameters: spreading width, dosage and vehicle speed ranges.

The dosages and quantity given for the different test materials are defined in Clause 5 (NaCl).

Table 1 — Spreader types for solid thawing media

Type	Spreading width m	Spreading dosage g/m ²	Vehicle speed km/h	Maximum quantity kg/min
A	1 to 6	5 to 30	5 to 40	120
B	2 to 8	5 to 30	5 to 60	240
C	3 to 12	5 to 30	5 to 80	300

Table 2 — Spreader type for liquid thawing media

Type	Spreading width m	Width step m	Spreading dosage g/m ²	Vehicle speed km/h	Maximum quantity kg/min
A	1 to 6	1	10 to 40	5 to 40	160
B	3,75 to 11,25	3,75	10 to 70	5 to 80	750
C	3 to 12	1	10 to 70	5 to 80	750

5 Test materials

The materials used in Europe for winter maintenance are very different. The sodium chloride (NaCl) has different granulometries according to the mine or production type, the humidity of these products is very variable too. For this reason, the test can be done with any kind of sodium chloride for solid material; the following characteristics shall be indicated in the report:

- NaCl content (%);
- humidity (%);
- granulometry (3 sieves minimum for a vacuum salt and 5 sieves minimum for rock salt and sea salt);
- anti-caking agent (nature and concentration).

The characteristics of materials shall be determined in laboratory by using a sample of material used for the test. An official certificate of material delivered by material supplier shall be attached to the test report.