

Winter service equipment - Brine production systems -
Requirements and test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Winter service equipment - Brine production systems - Requirements and test methods

Matériels de viabilité hivernale - Unités de production
de saumure - Exigences et méthodes d'essai

Winterdienstsausrüstung - Soleerzeuger -
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 28 June 2021.

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European foreword

This document (EN 17443:2021) 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of an identical text or by endorsement, at the latest by February 2022, and conflicting national standards shall be withdrawn at the latest by February 2022.

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Introduction

De-icing agents in solid and liquid form are important for the winter maintenance of roads. They can prevent respectively eliminate slippery road conditions. Brines are used for anti-icing (preventive winter maintenance) and de-icing (curative winter maintenance) in pure form or in mixture with solid sodium chloride as pre-wetted salt.

The document describes the requirements for brine production systems and their testing methods.

The aim of this document is an easy description of the product specifications for tenders and other purchasing procedures.

1 Scope

This document specifies the essential requirements of stationary systems for production of brines for winter road maintenance and includes tests of these requirements. Installation boundary: chloride and water inlet to the saturator, brine outlet to the spreading machine. Within the scope are materials, brine storage and brine loading/unloading equipment also. Mobile systems for production of brines *in situ* are not content of this document.

The following points are not covered by this document:

- System and construction requirements;
- Requirements according to national and European legislations.

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 16811-1:2016, *Winter service equipment and products - De-icing agents - Part 1: Sodium chloride - Requirements and test methods*

EN 16811-2:2016, *Winter service equipment and products - De-icing agents - Part 2: Calcium chloride and Magnesium chloride - Requirements and test methods*

ISO 2479, *Sodium chloride for industrial use — Determination of matter insoluble in water or in acid and preparation of principal solutions for other determinations*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15144, EN 16811-1, EN 16811-2 and the following apply.

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

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

3.1 brine

solution of chloride (sodium chloride, NaCl; calcium chloride, CaCl₂; magnesium chloride, MgCl₂) or of combinations of these chlorides in water

Note 1 to entry: Sodium chloride (NaCl, salt) is produced as rock salt, as solar salt, and as vacuum salt. Rock salt is extracted by mechanical mining of natural salt beds. Solar salt is produced by solar evaporation of sea water or brine from salt deposits and by extraction from salt lakes. Solar salt from sea water is named as sea salt. Vacuum salt is prepared by the evaporation of water from brine. Used salt (waste salt) come from secondary aluminium smelters, from fishery industry, from leather industry, etc. REACH registered synthetic by-product salts derive from chemical reactions (e.g. from gas cleaning in waste incinerators).