

PÕLLUMAJANDUSTRAKTORID JA LIIKURPRITSID.
OPERAATORI (JUHI) KAITSE OHTLIKE AINETE EEST.
OSA 1: KABIINI LIIGITUS, NÕUDED JA
KATSEPROTSEDUURID

Agricultural tractors and self-propelled sprayers -
Protection of the operator (driver) against hazardous
substances - Part 1: Cab classification, requirements
and test procedures

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 15695-1:2017 sisaldab Euroopa standardi EN 15695-1:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 15695-1:2017 consists of the English text of the European standard EN 15695-1:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 27.09.2017.	Date of Availability of the European standard is 27.09.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 65.060.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 15695-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 65.060.10

Supersedes EN 15695-1:2009

English Version

**Agricultural tractors and self-propelled sprayers -
Protection of the operator (driver) against hazardous
substances - Part 1: Cab classification, requirements and
test procedures**

Tracteurs agricoles et pulvérisateurs automoteurs -
Protection de l'opérateur (conducteur) contre les
substances dangereuses - Partie 1 : Classification des
cabines, exigences et méthodes d'essais

Landwirtschaftliche Traktoren und selbstfahrende
Pflanzenschutzgeräte - Schutz der Bedienungsperson
(Fahrer) vor gefährlichen Substanzen - Teil 1: Kabinen-
Klassifizierung, Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 3 July 2017.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Specification of categories of cabs	7
4.1 Category 1	7
4.2 Category 2	7
4.3 Category 3	7
4.4 Category 4	7
5 Safety requirements and/or protective/risk reduction measures	8
5.1 Filter housing	8
5.2 Category 2	8
5.3 Category 3	8
5.4 Category 4	8
5.5 Tightness of the air delivery and filtration system	8
5.6 Blockages	9
5.7 Location of air inlet	9
5.8 Cab apertures	9
6 Verification of requirements	9
7 Information for use	10
7.1 Operator's manual	10
7.1.1 General	10
7.1.2 Category 1	11
7.1.3 Category 2	11
7.1.4 Category 3	11
7.1.5 Category 4	12
7.2 Marking	12
Annex A (normative) Air delivery system test	13
A.1 General	13
A.2 General conditions	13
A.3 Ambient conditions	13
Annex B (normative) Determination of leakages of air delivery and filtration system installed in the cab	14
B.1 General	14
B.2 Test equipment	14
B.3 Test conditions	14
B.4 Test procedure	14
B.5 Test result and acceptance criteria	15
B.6 Test report	15

Annex C (normative) Determination of isolation effectiveness of air delivery and filtration system installed in the cab	17
C.1 Laboratory method using an aerosol	17
C.2 Measurement protocol	17
C.3 New air flow measurement methods.....	21
C.4 Test report	25
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Machinery Directive 2006/42/EC aimed to be covered	28
Bibliography	29

This document is a preview generated by EVS

European foreword

This document (EN 15695-1:2017) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, 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 March 2018, and conflicting national standards shall be withdrawn at the latest by March 2018.

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 document supersedes EN 15695-1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The EN 15695 series, *Agricultural tractors and self-propelled sprayers – Protection of the operator (driver) against hazardous substances*, consists of the following parts:

- *Part 1: Cab classification, requirements and test procedures;*
- *Part 2: Filters, requirements and test procedures.*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this European Standard. When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

When operating self-propelled sprayers or tractors, the operator can be exposed to hazardous substances such as dust, aerosols or vapours (for example during the application of plant protection products or fertilisers). Cabs of agricultural tractors and self-propelled sprayers providing protection against these substances may be used to reduce operator exposure to air-borne contaminants generated during farming operations.

With regard to the application of plant protection products (PPP) the operator can be exposed to risks:

- before the actual spraying operation (e.g. handling of PPP cans/packages, spray tank filling, sprayer adjustment);
- during the spraying operation (e.g. on the tractor or self-propelled sprayer with/without cab, when working at the sprayer when adjusting the sprayer in the field, removing nozzle blockages, etc.);
- after the spraying operation (e.g. when removing residues, sprayer cleaning, service and maintenance operations).

Protective measures (personal protective equipment (PPE)) are specified on PPP labels today, for example:

- dermal exposure: gloves, overall, apron, headdress (with face protection), protective goggles;
- respiratory exposure: filtering half masks.

The objective of this European Standard is to improve the operator protection by using the protective function of the cab of self-propelled sprayers and tractors in case of mounted or trailed sprayers. For this purpose, this European Standard specifies cab categories, performance requirements, test procedures and the operator information to be provided, in particular with regard to installation, use and maintenance operations.

1 Scope

This European Standard is applicable to cabs of agricultural and forestry tractors and self-propelled sprayers. Its purpose is to limit the exposure of the operator (driver) to hazardous substances when applying plant protection products (PPP) and liquid fertilisers. This European Standard specifies different categories of cabs of agricultural and forestry tractors and self-propelled sprayers and the relevant requirements and test procedures in order to limit the exposure of the operator (driver) to hazardous substances when inside the cab. It also specifies the information to be provided by the tractor or self-propelled sprayer manufacturer.

This document does not cover:

- the exposure linked to fumigants;
- the category of cab and performance level to be used for any particular application;
- the actual cab performance in the field applications;
- the field durability of filters.

This document is not applicable to tractor cabs which are manufactured before the date of its publication as an EN.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14387:2004+A1:2008, *Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking*

EN 15695-2:2017, *Agricultural tractors and self-propelled machinery — Protection of the operator (driver) against hazardous substances — Part 2: Filters, requirements and test procedures*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

ISO 14269-5:1997, *Tractors and self-propelled machines for agriculture and forestry — Operator enclosure environment — Part 5: Pressurization system test method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1

hazardous substance

substance such as dust, vapour and aerosol except fumigant which can occur when applying plant protection products and fertiliser and which can expose an operator to a risk of harm