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Agricultural machinery - Manure spreaders - Safety

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EUROPEAN STANDARD

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English Version

Agricultural machinery - Manure spreaders - Safety

Matériel agricole - Epandeurs de fumier - Sécurité

Landmaschinen - Stalldungstreuer - Sicherheit

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

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Foreword

This document (EN 690:2013) 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of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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 690:1994+A1:2009.

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 following main changes have been introduced during the revision of EN 690:1994+A1:2009:

— Scope: inclusion of self-propelled, mounted, semi-mounted and trailed manure spreaders, except spreaders with lateral spreading;

— update of Normative References;

— new requirements on prevention of unintentional contacts with moving spreading device;

— new requirements regarding design for cleaning and maintenance operations;

— new requirements regarding design and guarding of conveyor;

— means of access;

— noise.

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, 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

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

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the Scope of this document. These hazards are specific to manure spreaders.

Significant hazards that are common to all the agricultural machines (self-propelled, mounted, semi-mounted and trailed) are dealt with in EN ISO 4254-1. 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.

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1 Scope

This European Standard, to be used together with EN ISO 4254-1, specifies the safety requirements and their verification for the design and construction of self-propelled, mounted, semi-mounted and trailed manure spreaders, provided with vertical or horizontal axes rotors rear spreader device or with vertical axes disc rear spreader device. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer.

When requirements of this document are different from those which are stated in EN ISO 4254-1, the requirements of this document take precedence over the requirements of EN ISO 4254-1 for machines that have been designed and built according the provisions of this document.

This European Standard, taken together with EN ISO 4254-1, deals with all the significant hazards, hazardous situations and events relevant to manure spreaders, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table 1), excepting the hazards arising from:

— vibrations of self-propelled machinery;

— travelling function of self-propelled machinery;

— overturning in regard to the protection of the operator at the driving station of a self-propelled machine;

— hazards related to conveying devices other than those defined in 3.3.1 and 3.3.2, for example load push/push-off device.

NOTE 1 Regarding roll-over protection for self-propelled agricultural machinery, see EN ISO 16231-1.

NOTE 2 This European Standard is neither applicable to environmental hazards nor to road safety. Environmental aspects are dealt with in EN 13080.

This European Standard does not apply to manure spreaders with laterally mounted spreading device as defined in 3.6.

This European Standard is not applicable to manure spreaders which are manufactured before the date of publication of this document by CEN.

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 15811, *Agricultural machinery — Guards for moving parts of power transmission — Guard opening with tool (ISO/TS 28923)*

EN ISO 4254-1:2009, *Agricultural machinery — Safety — Part 1: General requirements (ISO 4254-1:2008)*

EN ISO 5353:1998, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point (ISO 5353:1995)*

EN ISO 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment – Part 1: Planning (ISO/TR 11688-1)*

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

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EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

EN ISO 14982, *Agricultural and forestry machinery — Electromagnetic compatibility — Test methods and acceptance criteria (ISO 14982)*

ISO 3600, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Operator's manuals — Content and presentation*

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
manure spreader
machine for transporting and spreading manure and/or other mainly non-liquid organic products or soil improvers (e.g. lime) on the field

Note 1 to entry: See examples in Annex A, Figures A.1, A.2 and A.3.

3.2
load body
volume consisting of a platform with three walls and a spreading device at the rear able to contain the product for its transport and spreading

3.3
conveyor device
device able to convey/move/carry the material in the load body to the spreading device, that are of three types: scraper floor, conveyor belt or load push/push-off device

3.3.1
scraper floor
conveyor device made by two or more dragging chains and by a number of slats

3.3.2
conveyor belt(s)
conveyor device made by belt(s)

3.3.3
load push
push-off device
conveyor device formed by a moveable wall for pushing the material in the load body to the spreading device

3.4
rear spreading device
device made by rotary elements (e.g. rotors or discs) intended for spreading the product contained inside the load body

Note 1 to entry: See examples in Annex A, Figure A.4 and A.5.

3.4.1
rear spreading device with rotor(s)
device formed by rotor(s) with vertical or horizontal rotation axe

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