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Vägbyggnad och vägunderhåll – Spridare för pulverbindemedel – Terminologi och handelsspecifikationer (ISO 15689:2003, IDT)

Road construction and maintenance equipment – Powder binder spreaders – Terminology and commercial specifications (ISO 15689:2003, IDT)

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The International Standard ISO 15689:2003 has the status of a Swedish Standard. This document contains the official English version of ISO 15689:2003.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 15689 was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*.

Introduction

This International Standard deals with powder binder spreaders used in road construction and maintenance processes. It specifies terminology for the machine and its components, and also the definitions of operation principles and parameters.

Dealing with commercial specifications, this International Standard establishes the parameters required for technical characteristics of the whole machine and its components, such as vehicle, powder tank, transfer unit, distributing system and control instruments. Figures are included to show the design of powder binder spreaders.

Road construction and maintenance equipment — Powder binder spreaders — Terminology and commercial specifications

1 Scope

This International Standard establishes the terminology, functions, types and characteristics of powder binder spreaders used in road construction and maintenance processes.

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.

ISO 3911, *Wheels and rims for pneumatic tyres — Vocabulary, designation and marking*

3 Terms and definitions

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

3.1

powder binder spreader

mobile machine intended for stabilization, treatment or retreating of pavement materials and soils in earthworks, subgrade or road foundations

NOTE The spreaders are designed so that the output is controlled by travel speed and proportioning devices.

3.2

spreader with proportioning by volume

machine whose binder output is proportioned by volume using, for example, a rotary vane feeder or delivery conveyor

NOTE 1 The spreader with proportioning by volume may be also equipped with a control device able to indicate at any given time the mass of the spread binder and the corresponding area covered.

NOTE 2 See Figure A.3 and Figure A.4.

3.3

spreader with proportioning by mass

machine equipped with a proportioning system that constantly controls the mass of binder delivered by the proportioner

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4 Types and designs of powder binder spreaders

4.1 General

The design of powder binder spreaders is determined by using the following criteria:

- propulsion type;
- transfer method of binder from tank to ground;
- proportioner type.

4.2 Propulsion type

The spreaders are classified according to the propulsion type, as follows:

- a) by transport machine: transported spreader (Figures A.1 and A.2);
- b) by the spreader itself: self-propelled spreader (Figures A.5, A.6 and A.7);
- c) by tractor: towed spreader (Figure A.3).

4.3 Transfer method of binder from tank to ground

The following methods of binder transfer from tank to ground exist:

- a) by gravity
 - with fluidification of powder in the air (Figures A.1 and A.5),
 - without fluidification;
- b) by a mechanical process
 - by metal or rubber delivery conveyor (Figure A.3),
 - by a screw feeder (Figure A.2) or spreading device (Figure A.7);
- c) by pneumatic transfer;
- d) by a combination of the preceding processes
 - with or without a distribution system upstream of the proportioner,
 - with or without conditioning hopper upstream of proportioner.

4.4 Proportioner type

The following binder proportioning units are used:

- a) rotary vane feeder (Figures A.1 and A.4);
- b) delivery conveyor by volume (Figure A.3);
- c) proportioner by mass, with or without a distribution system downstream of the proportioner;
- d) other.

5 Commercial specifications

5.1 Main assemblies of powder binder spreader

See Figures A.1, A.2, A.3, A.4, A.6 and A.7.

A power binder spreader consists of

- engine and power transmission,
- chassis,
- free axle,
- driven axle,
- powder tank,
- conditioning hopper,
- delivery conveyor,
- calibration flap,
- screw feeder,
- spreading device,
- compressor and pneumatic transfer duct,
- rotary vane feeder (rotor and stator),
- skirts, and
- operator's station.

5.2 Main measuring and control equipment

The main equipment is the following:

- output control device in cab;
- tank full indicator;
- tank empty indicator;
- tank level indicator;
- device to measure quantity of powder spread
 - by mass,
 - by volume;
- device to measure surface area covered;
- calculator of average proportion applied (associated with previous two devices);