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Building construction machinery and equipment — Machinery for concrete surface floating and finishing —

Part 1: Commercial specifications

Machines et matériels pour la construction des bâtiments — Talocheuses-lisseuses de mortier —

Partie 1: Spécifications commerciales

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, Subcommittee SC 1, *Machinery and equipment for concrete work*.

This second edition cancels and replaces the first edition (ISO 13105-1:2014), which has been technically revised.

The main changes are as follows:

— updated normative references.

A list of all parts in the ISO 13105 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Building construction machinery and equipment — Machinery for concrete surface floating and finishing —

Part 1: Commercial specifications

1 Scope

This document establishes the content for commercial specifications for machines used for concrete surface floating and finishing (also known as power trowels). This includes pedestrian-controlled equipment and ride-on equipment.

This document does not address strike-off type machines, commonly known as screeds.

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.

ISO 13105-2, *Building construction machinery and equipment — Machinery for concrete surface floating and finishing — Part 2: Safety requirements and verification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13105-2 and the following apply.

ISO and IEC maintain terminology 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
power trowel
motor-powered machine with rotating tools for floating and finishing freshly placed concrete

3.2
rotor
rotating assembly including the *blades* (3.3) and means to pitch blades

3.3
blade
working tool which contacts with the concrete surface

3.4
handle
pole
device on pedestrian-controlled *power trowel* (3.1) to enable the operator to hold and manoeuvre the machine

3.5
retardant
liquid finishing aid

3.6
pitch
angle between the surface of the *blade* (3.3) and the concrete surface

Note 1 to entry: This can be fixed or adjustable.

3.7
operating mass
mass of the base machine, with equipment and empty attachment in the most usual configuration as specified by the manufacturer, and with the operator (75 kg), full fuel tank and all fluid systems (i.e. hydraulic oil, transmission oil, engine oil, engine coolant) at the levels specified by the manufacturer and, when applicable, with sprinkler water tank(s) half full

Note 1 to entry: The mass of an operator is not included for non-riding machines.

Note 2 to entry: Ballast mass at delivery can be included if specified by the manufacturer.

[SOURCE: ISO 6016:2008, 3.2.1, modified — The abbreviated term "OM" has been removed.]

3.8
nominal mass
mass of the machine equipped with all its parts, the attached tank(s) being empty (dismountable dry mass)

4 Commercial specifications

4.1 General

The following general data shall be presented:

a) model and type

b) manufacturer

c) serial number

d) prime mover (internal combustion engine or electric, pneumatic or hydraulic motor)

1) if internal combustion engine:

— type (spark ignition or compression ignition)

— model

— manufacturer

— operating speed min^{-1}

— engine net power as certified kW

— fuel type

— fuel tank capacity l

2) if electric motor:

- model and type
- rated power — kW
- rated current — A
- voltage and frequency — V – Hz
- number of speeds
- speed range — min^{-1}

3) if pneumatic or hydraulic motor:

- model and type
- rated power (pneumatic only) — kW
- displacement (hydraulic only) — cm^3
- rated pressure — kPa
- rated flow — l/min

e) number of blades per machine

f) pitch — range __° to __°

g) rotor diameter (swept circle of rotor) — mm

h) rotor speed (min to max) — min^{-1}

i) operating mass — kg

j) shipping mass — kg

4.2 Pedestrian-controlled power trowel

For pedestrian-controlled machines, the following shall also be presented (see Annex A, Figure A.1).

a) handle type (i.e. short, long, foldable)

b) handle height (if fixed height) — mm

c) handle height (if adjustable) — range min/max in mm

d) guard ring outer diameter — mm

e) overall length in operating mode — mm

4.3 Ride-on power trowel

For ride-on machines, the following shall also be presented.

a) swept path width mm

b) unswept distance between rotors mm

c) retardant tank (if any) capacity l

d) battery capacity (if equipped) Ah

e) type of transmission (i.e. mechanical, hydraulic)

f) type of steering system (i.e. mechanical, power-assisted)

g) overall dimensions (see Annex A, Figure A.2):

— length (left to right) mm

— width (front to back) mm

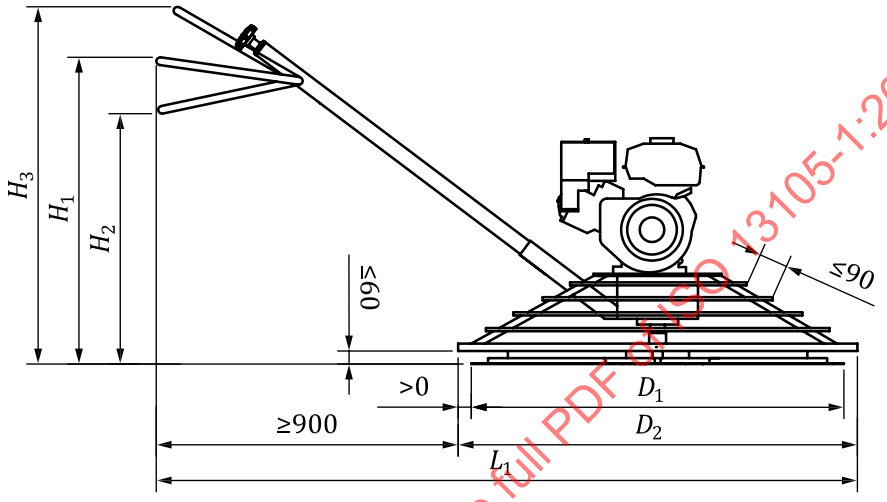
— height mm

h) operator seat height (from work surface) mm

Annex A
(informative)

Power trowel dimensions in operating mode

Dimensions in millimetres



Key

D_1 rotor diameter (swept circle of rotor)
D_2 guard ring outer diameter
H_1 height of handle (if fixed)
H_2 minimum height of handle (if adjustable)
H_3 maximum height of handle (if adjustable)
L_1 overall length

Figure A.1 — Pedestrian-controlled power trowel shown with spark ignition engine