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

Part 1: Terms and commercial specifications

Machines et matériels pour la construction des bâtiments — Talocheuses-lisseuses de mortier — Partie 1: Terminologie et spécifications commerciales

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Foreword

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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 13105-1 was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, Subcommittee SC 1, *Machinery and equipment for concrete work*.

ISO 13105 consists of the following parts, under the general title *Building construction machinery and equipment — Machinery for concrete surface floating and finishing*:

— *Part 1: Terms and commercial specifications*

— *Part 2: Safety requirements(under development)*

Introduction

This International Standard deals with machinery designed for smoothing and finishing concrete on construction sites. These machines are commonly referred to as "power trowels."

It provides terminology and definitions for those terms for the machine and for specific components of the machine.

It establishes requirements and parameters for stating values typically found in commercial literature in an effort to aid customers and users in product selection and comparison.

Building construction machinery and equipment — Machinery for concrete surface floating and finishing — Part 1: Terms and commercial specifications

1 Scope

This International Standard defines terms and commercial specifications for machines used for concrete surface floating and finishing. This includes pedestrian-controlled equipment and ride-on equipment.

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

2 Normative references

The following referenced documents are indespensable 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.

3 Terms and definitions

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

3.1
power trowel
motor powered machines with rotating tools for floating and finishing freshly placed concrete

3.2
rotor
rotating assembly including the blades and means to pitch blades

3.3
blade
working tool which contacts the concrete surface

3.4
handle
<pole>
device on pedestrian-controlled power trowel to enable the operator to hold and manoeuvre the machine

3.5
retardant
liquid finishing aid

3.6
pitch
included angle between the surface of the blade and the concrete surface

Note Could be fixed or adjustable.

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 (combustion engine or electric, pneumatic or hydraulic motor)

1) if combustion engine:

— type (spark ignition or compression ignition)

— model

— manufacturer

— operating speed min^{-1}

— engine net power kW (or as specified by engine manufacturer)

— fuel type

— fuel tank capacity liters

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) cc

— rated pressure kpa

— rated flow lpm

e) number of blades per machine

f)	pitch	range in degrees
g)	rotor diameter (swept circle of rotor)	mm
h)	rotor speed (min – 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 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 be also presented:

a)	swept path width	mm
b)	unswept distance between rotors	mm
c)	retardant tank (if any) capacity	litres
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 Figure A.2):	
	— length (left to right)	mm
	— width (front to back)	mm
	— height	mm
h)	operator seat height (from work surface)	mm