
**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

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.

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 documents 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO 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 and verification*

Introduction

ISO 13105 deals with machinery designed for smoothing and finishing concrete on construction sites. These machines are commonly referred to as “power trowels.”

This part of ISO 13105 provides terminology and definitions 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.

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

Part 1: Terms and commercial specifications

1 Scope

This part of ISO 13105 defines terms and 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.

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

2 Terms and definitions

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

2.1

power trowel

motor-powered machine with rotating tools for floating and finishing freshly placed concrete

2.2

rotor

rotating assembly including the blades and means to pitch blades

2.3

blade

working tool which contacts with the concrete surface

2.4

handle

pole

device on pedestrian-controlled power trowel to enable the operator to hold and manoeuvre the machine

2.5

retardant

liquid finishing aid

2.6

pitch

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

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

3 Commercial specifications

3.1 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 litres
 - 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 to max) min⁻¹
- i) operating mass kg
- j) shipping mass kg

3.2 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 |

3.3 Ride-on power trowel

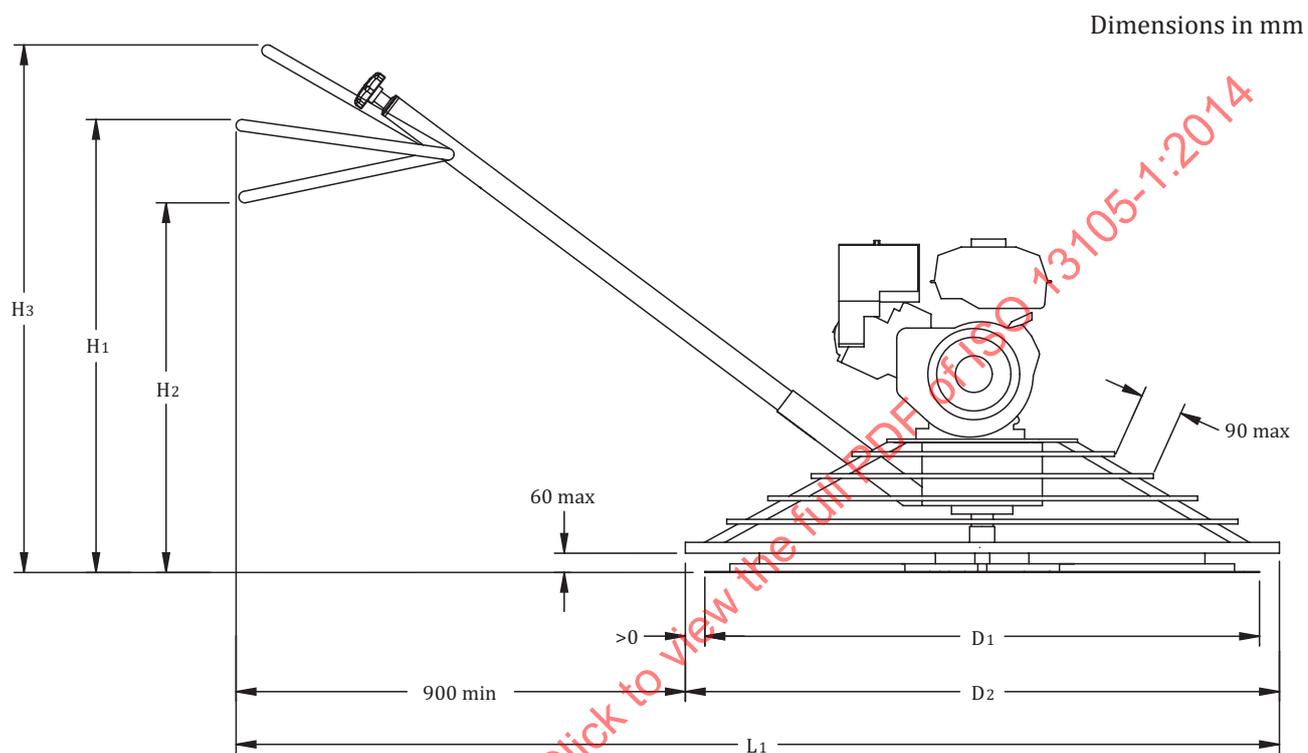
For ride-on machines, the following shall be also presented.

- | | | |
|----|---|-----------------------------------|
| 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 |

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Annex A (informative)

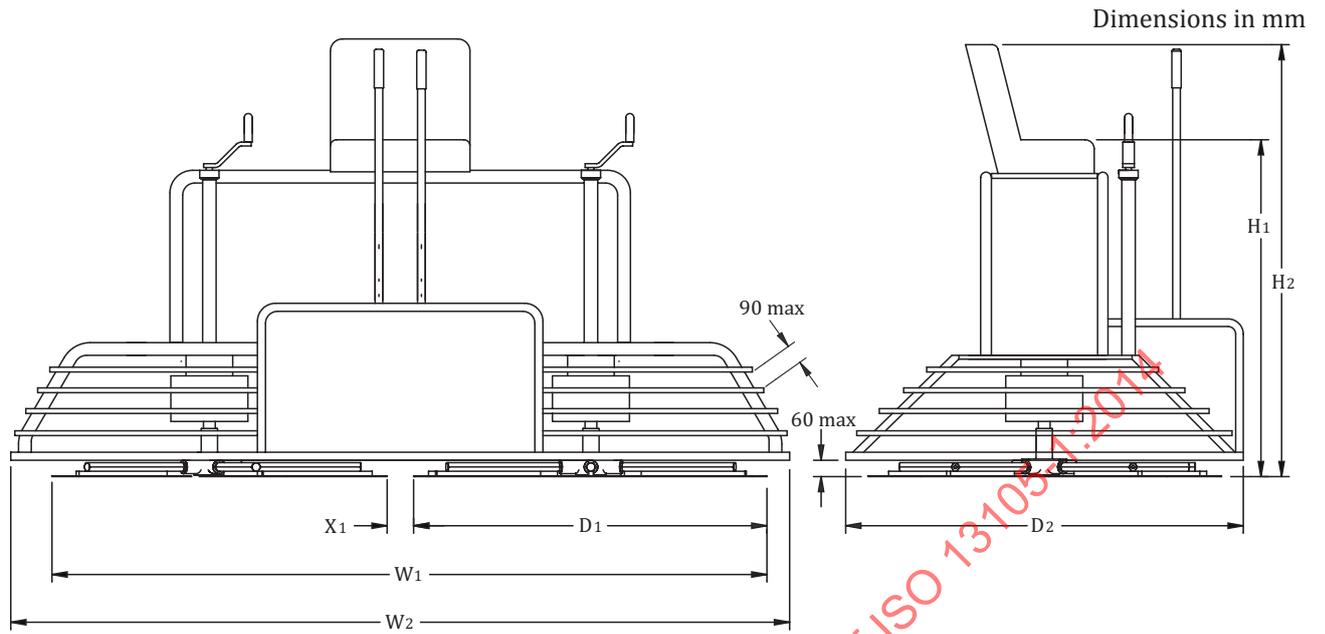
Power trowel dimensions in operating mode



Key

- D₁ rotor diameter (swept circle of rotor)
- D₂ guard ring outer diameter
- H₁ height of handle (if fixed)
- H₂ minimum height of handle (if adjustable)
- H₃ maximum height of handle (if adjustable)
- L₁ overall length

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



Key

- D_1 rotor diameter (swept circle of rotor)
- D_2 overall width (front to back)
- H_1 operator seat height (from work surface)
- H_2 overall height
- L_1 overall length
- W_1 swept path width
- W_2 overall width (left to right)
- X_1 unswept distance between rotors

Figure A.2 — Ride-on type power trowel