



**International  
Standard**

**ISO 11886**

**Drilling and foundation  
machinery — Soil or soil and rock  
mixture drilling and foundation  
machines — Commercial  
specifications**

**Second edition  
2025-09**

*Machines de forage et de fondation — Machines de forage  
et de fondation pour sols ou mélanges de sols et de roches —  
Spécifications commerciales*

ISO 11886:2025

<https://standards.iteh.ai/catalog/standards/iso/cc9b0a2e-5076-4aa6-ae51-25132db1bea4/iso-11886-2025>

**iTeh Standards**  
**(<https://standards.itih.ai>)**  
**Document Preview**

ISO 11886:2025

<https://standards.itih.ai/catalog/standards/iso/cc9b0a2e-5076-4aa6-ae51-25132db1bea4/iso-11886-2025>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

## Contents

Page

|   |           |
|---|-----------|
| <b>Foreword</b>   | <b>v</b>  |
| <b>1 Scope</b>  | <b>1</b>  |
| <b>2 Normative references</b>                                 | <b>1</b>  |
| <b>3 Terms and definitions</b>                                | <b>1</b>  |
| 3.1 General   | 2         |
| 3.2 Drilling and foundation components or elements            | 2         |
| 3.3 Methods and processes                                     | 3         |
| 3.4 Machines and equipment                                    | 5         |
| 3.5 General components and systems                            | 9         |
| 3.6 Tools and accessories                                     | 11        |
| 3.7 Undercarriage types                                       | 12        |
| 3.8 Design and performance characteristics                    | 12        |
| 3.9 Main characteristics of drilling and foundation equipment | 14        |
| 3.9.1 General characteristics                                 | 14        |
| 3.9.2 Dimensions  | 15        |
| 3.9.3 Drill rods characteristics                              | 16        |
| <b>4 Nomenclature</b>   | <b>17</b> |
| 4.1 General components and systems                            | 17        |
| 4.2 Mobile drill rigs for civil and geotechnical engineering  | 24        |
| 4.3 Foundation equipment including piling machinery           | 27        |
| 4.4 Diaphragm walling equipment                               | 44        |
| <b>5 Commercial specifications</b>                            | <b>54</b> |
| 5.1 General   | 54        |
| 5.2 Common specifications                                     | 54        |
| 5.2.1 Engine  | 54        |
| 5.2.2 Power transmission                                      | 54        |
| 5.2.3 Feed system specification                               | 55        |
| 5.2.4 Travel specification                                    | 55        |
| 5.2.5 Slewing   | 55        |
| 5.2.6 Steering and braking                                    | 55        |
| 5.2.7 Hydraulic system  | 55        |
| 5.2.8 Engine fluid system                                     | 56        |
| 5.2.9 Tyres   | 56        |
| 5.2.10 Undercarriage (track)                                  | 56        |
| 5.2.11 Operating mass   | 57        |
| 5.2.12 Shipping mass  | 57        |
| 5.2.13 Operating overall dimensions                           | 57        |
| 5.2.14 Shipping overall dimensions                            | 57        |
| 5.2.15 Stability characteristics                              | 57        |
| 5.3 Mobile drill rigs for civil and geotechnical engineering  | 58        |
| 5.3.1 General   | 58        |
| 5.3.2 Methods   | 58        |
| 5.3.3 Undercarriage   | 58        |
| 5.3.4 Rotation head   | 58        |
| 5.3.5 Hammer  | 59        |
| 5.3.6 Clamping devices  | 59        |
| 5.3.7 Leader  | 59        |
| 5.3.8 Carousel  | 59        |
| 5.3.9 Kinematics  | 60        |
| 5.3.10 Winches  | 60        |
| 5.3.11 Safety devices   | 60        |
| 5.3.12 Noise  | 60        |
| 5.3.13 Drilling fluid specifications                          | 60        |
| 5.3.14 Drilling rods  | 61        |

## ISO 11886:2025(en)

|   |  |            |
|---|--|------------|
| 5.4   | Foundation equipment including piling machines ..... | 61         |
| 5.4.1   | General .....  | 61         |
| 5.4.2   | Heights .....  | 61         |
| 5.4.3   | Hammers and extractors .....                         | 61         |
| 5.4.4   | Impact hammers for pile driving .....                | 61         |
| 5.4.5   | Vibratory hammers and extractors .....               | 63         |
| 5.4.6   | Carrier machine .....                                | 66         |
| 5.4.7   | Power feed units .....                               | 66         |
| 5.4.8   | Pile winch .....                                     | 66         |
| 5.4.9   | Hammer winch .....                                   | 67         |
| 5.4.10  | Auxiliary winch .....                                | 67         |
| 5.4.11  | Flying drilling equipment .....                      | 67         |
| 5.4.12  | Casing oscillator .....                              | 67         |
| 5.4.13  | Casing rotator .....                                 | 67         |
| 5.5   | Diaphragm walling equipment .....                    | 68         |
| 5.5.1   | Diaphragm wall grab .....                            | 68         |
| 5.5.2   | Diaphragm wall cutter .....                          | 68         |
| 5.6   | Jetting, grouting and injection equipment .....      | 68         |
| 5.6.1   | Method .....   | 68         |
| 5.6.2   | Performances .....                                   | 68         |
| 5.6.3   | Type of mixture or fluids .....                      | 69         |
| 5.6.4   | Jet grouting pump unit .....                         | 69         |
| 5.7   | Accessories .....                                    | 69         |
| <b>Annex A (normative) Dimensions for drilling and foundation equipment – Carrier and base machine dimensions .....</b> |  | <b>70</b>  |
| <b>Annex B (normative) Dimensions of equipment and attachments .....</b>  |  | <b>73</b>  |
| <b>Annex C (informative) List of drilling and foundation equipment .....</b>  |  | <b>78</b>  |
| <b>Bibliography .....</b>   |  | <b>123</b> |

Document Preview

[ISO 11886:2025](https://standards.iteh.ai/catalog/standards/iso/cc9b0a2e-5076-4aa6-ae51-25132db1bea4/iso-11886-2025)

<https://standards.iteh.ai/catalog/standards/iso/cc9b0a2e-5076-4aa6-ae51-25132db1bea4/iso-11886-2025>

## 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 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](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, Subcommittee SC 3, *Drilling and foundation machinery and equipment*.

This second edition cancels and replaces the first edition (ISO 11886:2002), which has been technically revised. It also incorporates the Technical Corrigendum ISO 11886:2002/Cor 1:2006.

The main changes are as follows:

- extension of the scope to drilling and foundation machines, except horizontal directional drilling (HDD) machines.

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](http://www.iso.org/members.html).



# Drilling and foundation machinery — Soil or soil and rock mixture drilling and foundation machines — Commercial specifications

## 1 Scope

This document establishes content for commercial specifications for drilling machines and foundation machines. It explains concepts related to their applications, working methods, machine types, and main components of the machines.

This document is applicable to:

- mobile drill rigs for civil and geotechnical engineering;
- foundation equipment including piling machines;
- diaphragm walling equipment;
- jetting, grouting and injection equipment;
- interchangeable auxiliary equipment.

This document does not apply to:

- machines specifically designed for mining application (e.g. rock drilling, raise boring, jumbo machines);
- horizontal directional drilling (HDD) machines (covered by ISO 21467<sup>[1]</sup>).

## 2 Normative references

ISO 11886:2025

<https://standards.iteh.ai/catalog/standards/iso/cc9b0a2e-5076-4aa6-ae51-25132db1bea4/iso-11886-2025>

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 6014, *Earth-moving machinery — Determination of ground speed*

ISO 6707-1, *Buildings and civil engineering works — Vocabulary — Part 1: General terms*

ISO 6746-1, *Earth-moving machinery — Definitions of dimensions and codes — Part 1: Base machine*

ISO 6746-2, *Earth-moving machinery — Definitions of dimensions and codes — Part 2: Equipment and attachments*

ISO 9249, *Earth-moving machinery — Engine test code — Net power*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6707-1, ISO 6746-1, ISO 6746-2 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/>