International Standard 7136

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Earth-moving machinery — Pipelayers — Terminology and commercial specifications

Engins de terrassement — Tracteurs poseurs de canalisations — 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7136 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Contents

Earth-moving machinery — Pipelayers — Terminology and commercial specifications

1 Scope

This International Standard establishes terminology and the content of commercial literature specifications for self-propelled crawler pipelayers.

2 Field of application

This International Standard applies to crawler pipelayers as defined in clause 4.

3 References

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

ISO 6165, *Earth-moving machinery — Basic types — Vocabulary.*

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

ISO 9249, *Earth-moving machinery — Engine test code — Net power.* [1)]

4 General definitions

4.1 pipelayer: Self-propelled crawler machine specifically designed to handle and lay pipes and carry pipeline equipment. The machine, the design of which is based on a crawler tractor, has specially designed components such as undercarriage, main frame, counterweight, boom and load hoist mechanism, and vertically pivotable side boom.

4.2 base machine: Pipelayer without equipment as described by the manufacturer specifications, i.e. with track shoes of stated width and lifting mechanism.

4.3 equipment: Set of components (boom and counterweights mounted to the base machine to fulfil the primary design function.

4.4 attachment: Optional assembly of components that can be mounted on the base machine for a specific use.

4.5 component: Part or an assembly of parts of a base machine, equipment or an attachment.

5 Base machine

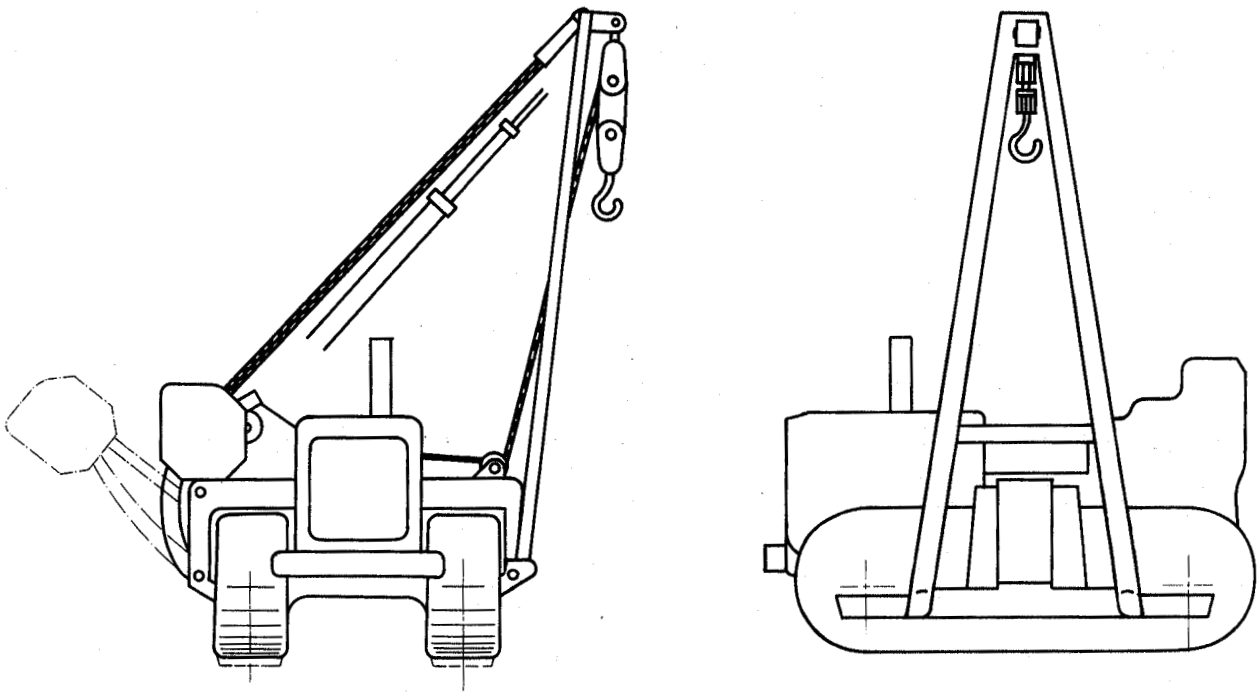
5.1 Basic form of pipelayer (see figure 1)

5.2 Dimensions (see figure 2)

For definitions of dimensions of base machine, see ISO 6746/1.

For definitions of dimensions strictly related to pipelayers, see the annex.

1) At present at the stage of draft.



NOTE — At present, two systems, i.e. cable hoist and cylinder hoist, are in existence to position the boom.

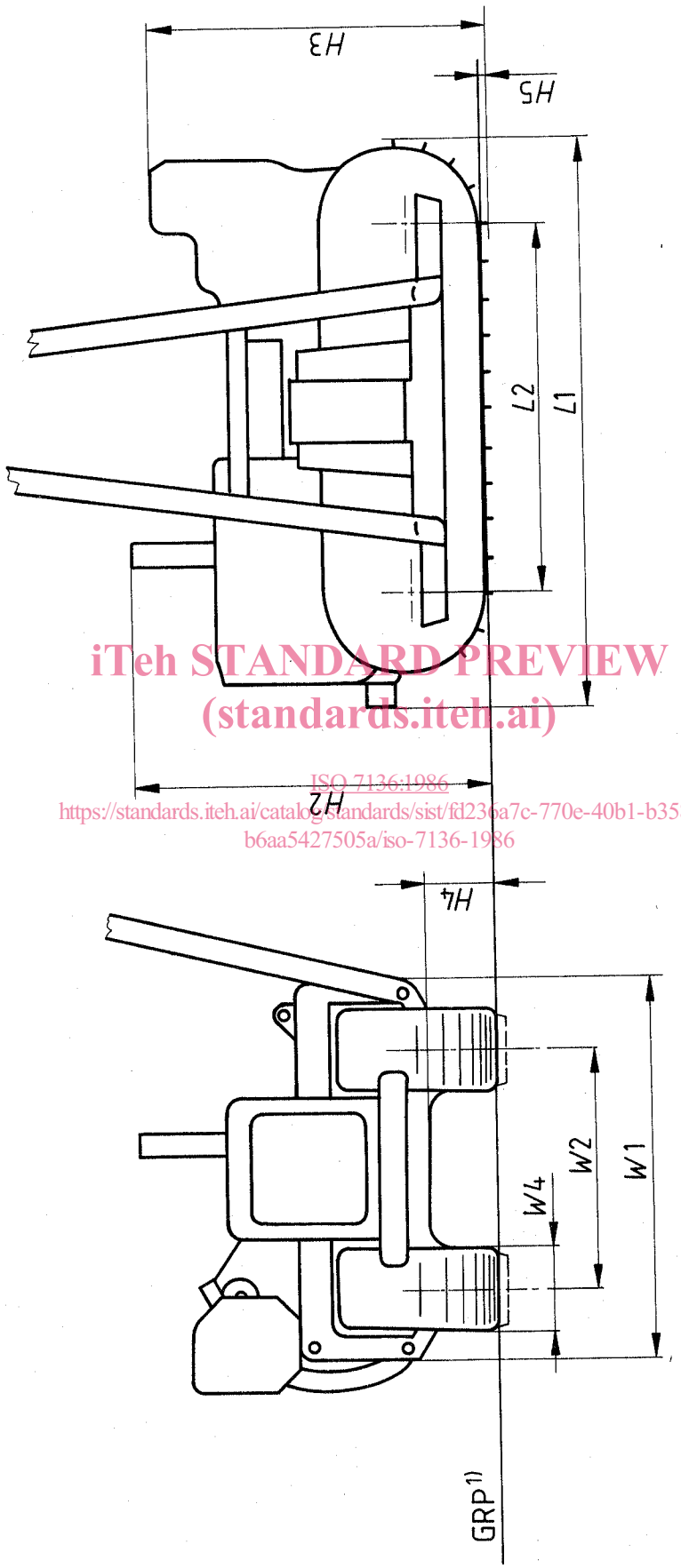
Figure 1 — Pipelayer

5.3 Masses

5.3.1 operating mass: Mass of the base machine, equipment specified by the manufacturer, operator (75 kg), full fuel tank, full lubricating, hydraulic and cooling systems, and rope and hook.

5.3.2 shipping mass: Mass of the base machine without operator, with full lubricating, cooling and hydraulic systems, 10 % of fuel tank capacity, with or without boom, counterweight, counterweight frames, cab or canopy, as stated by the manufacturer.

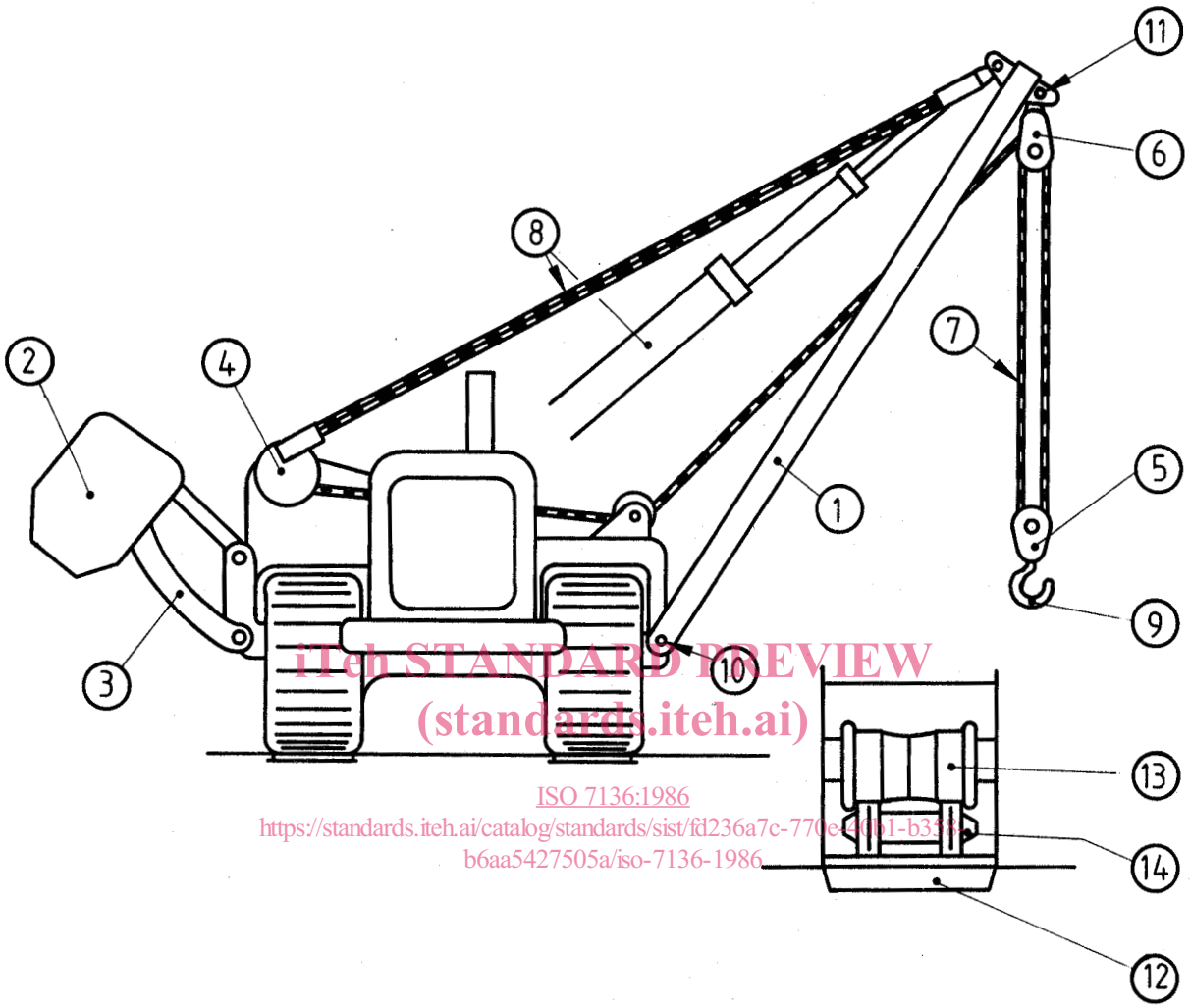
5.3.3 cab or canopy mass: Mass of cab or canopy and all their components and mountings required to secure these to the base machine.



1) GRP = Ground Reference Plane

Figure 2 — Dimensions of base machine (pipelayer) without pipelaying equipment

5.4 Component nomenclature (see diagram numbers)



(1) Boom

(2) Counterweight

(3) Counterweight frame(s)

(4) Load hoist and, if applicable, boom hoist drums

(5) Load block, lower

(6) Load block, upper

(7) Load hoist rope

(8) Boom hoist rope or boom cylinder

(9) Load hook

(10) Boom foot pivot

(11) Upper load block pivot

(12) Track shoe

(13) Lower track roller

(14) Track link

6 Performance terminology

6.1 ISO net power (engine): See ISO 9249.

6.2 maximum travel speeds: See ISO 6014.

6.3 hook speed: The hook speed measured at engine rated speed with bare drum.

6.4 rated loads: The loads at designated load overhang distances, counterweight position, number of parts of rope and rope breaking strength.

NOTE — A future International Standard will define rated load.

6.5 lift capacity — method of determination

NOTE — A future International Standard will define the method of determining lift capacity.

7 Commercial literature specifications — SI units (examples)

7.1 Engine (specify characteristics)

Manufacturer and model.
Diesel or spark ignition.
Type of cycle (2 or 4 stroke).
Naturally aspirated, mechanically supercharged, or turbocharged.
Number of cylinders.
Bore.
Stroke.
Displacement.
Cooling system (air or water cooled).
Type of fuel.
Power, flywheel net: ..... at .....rpm.
Torque—maximum: ..... at ..... rpm.
Starter type.
Electrical system: ..... V.

7.2 Transmission (specify type)

Examples:

Manual shift with flywheel clutch.
Powershift with torque converter.
Hydrostatic.
Electric.
Number of speeds, forward and reverse.
Travel speeds, (forward, reverse).

7.3 Steering and braking

Type (drum, disc, oil, dry).
Actuating system (hydraulic, mechanical).

7.4 System fluid capacities

Fuel tank.
Engine crankcase.
Cooling.
Transmission.
Final drives.
Hydraulic systems.
Boom and hoist mechanisms.

7.5 Final drives (specify type)

7.6 Undercarriage (track) (see figure 2)

Track gauge (dimension *W2*).
Track shoe width (dimension *W4*).
Crawler base (dimension *L2*).
Ground contact area (2 × *W4* × *L2*).
Number of track shoes (each side).
Number of lower track rollers (each side).

7.7 Pipelaying mechanisms (type, dimensions, masses, as applicable)

Counterweights (masses).
Boom and hoist mechanisms (type and characteristics — pulley diameters, parts of line, hydraulic cylinder dimensions, hydraulic pump flow, etc.).
Clutches and brakes (types and dimensions).
Boom and load hoist drums (dimensions and rope length capacity).
Rope diameter and minimum breaking strength.
Boom length.

7.8 Load capacity chart

Chart of rated loads at designated load overhang distances (dimension *W12*).

7.9 Operating mass

7.10 Shipping mass

7.11 Overall pipelayer dimensions

(Supply outline drawings, e.g. figure 2.)