INTERNATIONAL STANDARD

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Earth-moving machinery — Determination of average ground contact pressure for crawler machines

Engins de terrassement — Détermination de la pression moyenne de contact au sol des engins à chenilles

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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 16754 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 1, *Test methods relating to machine performance*.

Earth-moving machinery — Determination of average ground contact pressure for crawler machines

1 Scope

This International Standard specifies a uniform method for calculating the average ground contact pressure of self-propelled and towed crawler (track-laying) earth-moving machines, as defined in ISO 6165, on soft surfaces with empty equipment or attachment.

The average ground contact pressure value is used only for comparing different machine models. Actual ground contact pressure values under operating conditions will vary depending on load, position of the centre of gravity, terrain, track shoe type and size, and surface conditions.

NOTE 1 Alternative methods for determining ground contact pressure could apply to some specific machine families.

NOTE 2 The calculation makes allowance for some penetration into the supporting soil surface and the resulting increase in support area.

2 Normative references

The following referenced documents are indispensable 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.

ISO 6165:2006, *Earth-moving machinery — Basic types — Identification and terms and definitions*

ISO 6746-1:2003, *Earth-moving machinery — Definitions of dimensions and codes — Part 1: Base machine*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6746-1 and the following apply.

3.1
operating mass
OM
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 The mass of an operator is not included for non-riding machines.

NOTE 2 Ballast mass included at delivery can be included if specified by the manufacturer.

NOTE 3 The operating mass is expressed in kilograms.

[ISO 6016]

3.2
overall crawler length
$L6$
distance on X coordinate between two X planes passing through the farthest points on the ground-supported portion of the track undercarriage

See Figure 1.

NOTE 1 It is expressed in millimetres.

NOTE 2 $L6$ can also be determined according to 4.3.

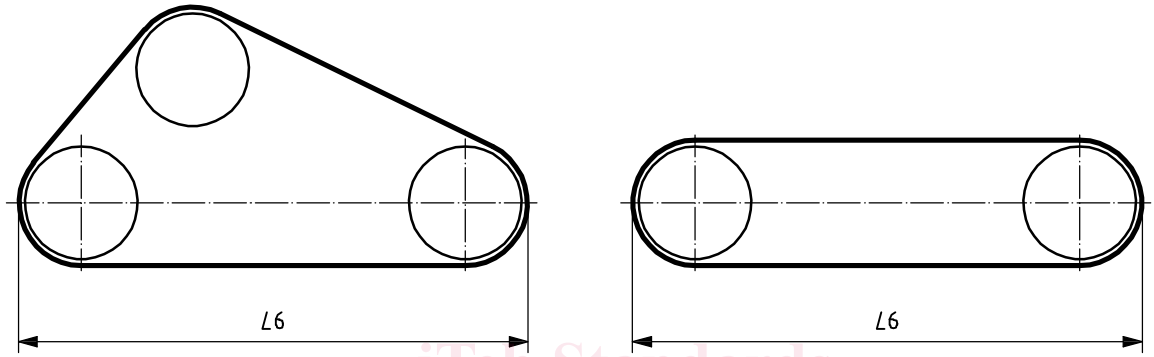

Figure 1 — Overall crawler length

3.3
crawler base
$L2$
distance on X coordinate between two X planes passing through the front idler axis and the sprocket (or rear idler) axis

[ISO 6746-1]

See Figure 2.

NOTE It is expressed in millimetres.

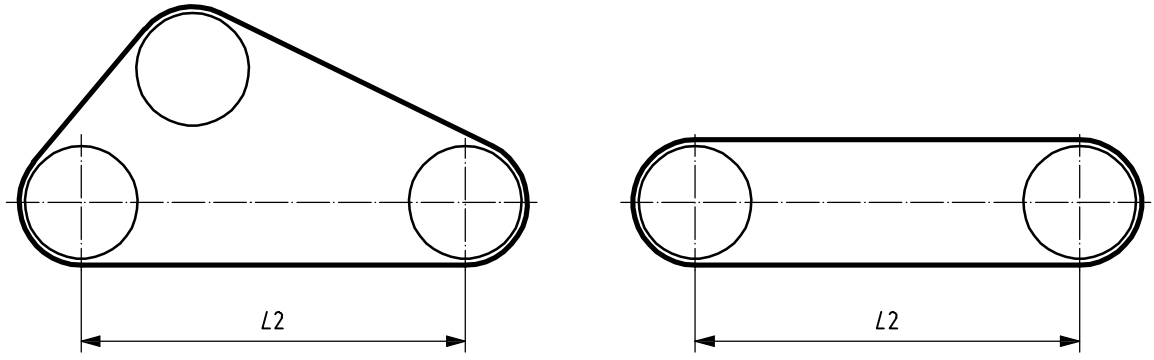

Figure 2 — Crawler base