
International Standard



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Mobile cranes — Drum and sheave sizes

Grues mobiles — Dimensions des tambours et des poulies

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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 8087 was prepared by Technical Committee ISO/TC 96, *Cranes, lifting appliances and related equipment*.

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Mobile cranes — Drum and sheave sizes

1 Scope and field of application

This International Standard establishes the minimum ratio of the pitch diameters of the drum and sheave to the nominal diameter of the rope for hoisting and luffing operations.

The nominal diameter of the rope is considered the base factor when applying the ratio. The use of this nominal diameter allows flexibility of application, as it is not limited to crane mechanisms; mobile cranes are frequently constructed for multi-purpose duty, such as hook lifting, grabbing, or magnet operation.

This International Standard applies to basic types of self-propelled mobile cranes as defined in ISO 4306/2.

2 References

ISO 4301, *Lifting appliances — Classification*.

ISO 4306/2, *Lifting appliances — Vocabulary — Part 2: Mobile cranes*.

ISO 4308, *Cranes — Selection of wire ropes*.

ISO 4309, *Wire rope for lifting appliances — Code of practice for examination and discard*.

3 Drum and sheave sizes

The minimum ratios of the pitch diameter of the drum and sheave to the nominal diameter of the rope are given in the table.

To avoid practical difficulties, since mobile cranes are frequently constructed for multi-purpose duty, only one set of minimum ratio values is given. The values presented are thus independent of the classification of the crane mechanism.

Table — Minimum ratio of pitch diameter¹⁾ to the nominal diameter of the rope

Part	Minimum ratio
Hoisting drum	16,0 : 1
Hoisting sheave (in travel blocks)	18,0 : 1
Compensating sheave:	
hoisting	14,0 : 1
luffing	12,5 : 1
Luffing drum	14,0 : 1
Luffing sheave	16,0 : 1

1) The pitch diameter is measured to the centreline of the rope.