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Continuous mechanical handling equipment for loose bulk materials — Hand-operated power shovels — Safety code

Engins de manutention continue pour produits en vrac — Pelles semi-automatiques — Code de sécurité

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 5034 was developed by Technical Committee ISO/TC 101, *Continuous mechanical handling equipment*, and was circulated to the member bodies in February 1976.

It has been approved by the member bodies of the following countries :

Australia	Germany	Spain
Austria	India	Sweden
Belgium	Japan	Turkey
Bulgaria	Mexico	United Kingdom
Chile	Netherlands	U.S.S.R.
Czechoslovakia	Poland	Yugoslavia
Finland	Romania	
France	South Africa, Rep. of	

No member body expressed disapproval of the document.

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Continuous mechanical handling equipment for loose bulk materials — Hand-operated power shovels — Safety code

1 SCOPE

This International Standard specifies, in addition to the general safety rules set out in ISO 1819, the special safety rules for the following continuous mechanical handling equipment for loose bulk materials : hand-operated power shovels.[1)]

2 FIELD OF APPLICATION

The safety rules laid down in this International Standard apply regardless of the use for which the equipment is intended. These safety rules limit the supplier's responsibility to continuous mechanical handling equipment properly so called, excluding the structures to which such equipment is fixed.

3 REFERENCES

ISO 1819, *Continuous mechanical handling equipment — Safety code — General rules.*[2)]

ISO 2148, *Continuous handling equipment — Nomenclature.*

4 SPECIAL SAFETY RULES

The construction and operation of hand-operated power shovels shall meet

- the legal and local requirements relating to safety in general (see appendix Z of ISO 1819);
- the principles laid down in clause 1 of ISO 1819;
- the general rules laid down in clause 2 of ISO 1819;
- the following special rules.

4.1 In the construction stage (design and manufacture)

4.1.1 The arms and handles of the scraper shovel shall be so designed and arranged as to allow the operator to work in a normal position.

4.1.2 The moving speed of the scraper shovel shall be adapted to the characteristics of the material and to the type of work to be carried out. This speed shall not exceed

- 0,5 m/s for waggon unloading, irrespective of the material;
- 1 m/s for the scraping of fine materials on the ground.

4.1.3 The winding unit control shall have an easily accessible pressure-operated contact fixed on one of the scraper shovel handles.

4.1.4 The tractive effort necessary for the scraper shovel return movement shall not exceed 30 daN.

4.1.5 The winding unit pulley shall be equipped with a braking device to prevent it from racing when in free-wheel operation. The winding unit shall not be capable of breaking the winding rope under stalled shovel conditions.

4.2 During the installation stage (layout, erection and entry into service)

4.2.1 The winding unit shall preferably be fixed to a base plate or be bolted down to a foundation block, or otherwise solidly fastened.

4.2.2 When the winding unit control power conductor is independent of the traction cable, the auxiliary suspension and return bracket shall be so located as to avoid any nuisance to the operator.

4.2.3 When the scraped materials fall into a pit more than 1 m deep, the opening of the pit shall be protected by a grid.

4.3 During the utilization stage (operation and maintenance)

4.3.1 The area to be scraped shall be free of any obstacles.

4.3.2 Particular care shall be taken to ensure the proper cleaning of the traction cable and of the winding unit drum.

4.3.3 Care shall also be taken to ensure that the traction cable is maintained in good condition.

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1) See 2.11.04 of ISO 2148.

2) At present at the stage of draft. (Revision of ISO/R 1819-1970.)

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