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SERIES LIFTING
EQUIPMENT**

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**Hand-operated and power driven hoists
for special purposes**

**Hand- und Kraftbetriebene Hubwerke
für besondere Einsatzfälle**

**Palans manuel et motorisés pour applications
spéciales**

Fédération Européenne de la Manutention (Section IX)

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Available in German (D), English (E), French (F)

Sources see end of the document

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Introduction

This rule has been compiled along the same lines as EN 414 in order to act as a safety rule representing a means for achieving agreement with the essential health and safety requirements of the Directive 98/37/EC.

Within the scope of application of this rule, it is stated which hazards are covered. For hazards not covered by this rule, the hoists, where applicable, shall comply with EN 292.

1 Scope

This Rule applies to hand-operated and power driven hoists for the lifting and lowering of loads and persons in special domains of application.

This Rule defines the requirements for the design and construction of hand-operated and power driven hoists which are used for special applications.

Hand-operated hoists shall conform to prEN 13157:1998.

Power driven hoists in the sense of this rule are:

- Rope hoists winding in single layers with round steel wire ropes. (Annex A, fig. 1);
- Chain hoists with round steel link chains (Annex A, fig. 2) or roller chains;
- Belt hoists (Annex A, fig. 3), where a belt is wound onto a drum in one winding in several layers.

Hand-operated hoists in the sense of this Rule are:

- Rope hoists winding in single layers with round steel wire ropes (Annex A, fig. 4);
- Rope hoists winding in several layers with round steel wire ropes (Annex A, fig. 5).

Power driven within the meaning of this rule signifies electrically, hydraulically or pneumatically driven.

This rule covers the hazards indicated in clause 4, which may arise during commissioning, operation and maintenance of the hoists.

This rule also applies to hoists which are intended to be used for the lifting of persons in theatre applications.

This rule applies only to single hoists used above persons.

Hoists for assembling and mounting purposes may be single hoists or several hoists operated in groups. There are no load movements above persons involved.

When using several hoists for group travels above persons, further hazards may arise which are not considered within the framework of this rule. In such a case, the requirements for the individual hoists are to be made in accordance with this rule, as far as this rule is applicable.

Pending the publication of a new rule defining the requirements for control and monitoring during use for group travels above person, a risk analysis according to EN 954 and EN 1050:1996 may be used in individual cases to prove the use of these hoists.

Among others, a risk analysis shall assess the following, additional risks:

- unequal load distribution;
- stability of the load;
- synchronous run, tolerances;

- failure of one hoist of the group;
- common power feeding, common disconnection;
- individual hoisting media becoming slack;
- movement sequences are not kept;
- common control system;
- monitoring of an automatic sequence;
- setting-up mode;
- predetermined target positions are run over;
- rated load of one hoist is exceeded;
- emergency stop and emergency switch-off;
- control of safety-related functions;
- user information;
- etc.

1.1 Fields of application are e.g.:

- hoists in public buildings;
- hoists in assembly places;
- hoists in shopping centres;
- hoists in places of events, flying systems, scenery hoists;
- hoists for the lifting of sporting equipment;
- hoists for the lifting of lustres;
- hoists for the lifting of scenery, lighting equipment, sound equipment;
- hoists for the lifting of partition walls, covers;
- hoists for the lifting of ceiling elements, tents;
- hoists for the lifting of stands;
- etc.