
International Standard



4310

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

Cranes — Test code and procedures

Appareils de levage — Code et méthodes d'essai

First edition — 1981-05-01

UDC 621.873/.877

Ref. No. ISO 4310-1981 (E)

Descriptors : hoists, cranes (hoists), gantry cranes, tests, performance tests, visual inspection, hoisting tests, mechanical tests, static tests, stability tests, testing conditions.

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 4310 was developed by Technical Committee ISO/TC 96, *Cranes, lifting appliances and related equipment*, and was circulated to the member bodies in June 1978.

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

Australia	Israel	South Africa, Rep. of
Austria	Korea, Rep. of	Spain
Bulgaria	Mexico	Switzerland
Czechoslovakia	Netherlands	Turkey
Finland	Norway	United Kingdom
France	Philippines	USSR
Germany, F. R.	Poland	Yugoslavia
Ireland	Romania	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium
India
Japan
USA

Cranes — Test code and procedures

1 Scope and field of application

This International Standard specifies the tests and procedures to be followed in order to verify that a crane conforms to its operational specifications and is capable of lifting rated loads. Where rated loads are governed by stability, a test procedure and test load are specified that permit stability margins to be easily verified.

The following crane types are governed by this International Standard :

- a) overhead travelling cranes;
- b) travelling bridge cranes;
- c) portal cranes;
- d) mobile cranes and crane-excavators;
- e) tower cranes;
- f) railway cranes;
- g) cable cranes;
- h) others to be determined.

2 Types of test procedure and number of samples

2.1 Three types of test procedure are to be used to accomplish the aims of this International Standard :

- a) testing of cranes for conformity to specifications as set forth in 3.1;
- b) visual inspection as set forth in 3.2;
- c) load lifting competence testing as set forth in 3.4, 3.5 and 3.6.

2.2 All cranes shall be required to satisfy the test procedures stipulated above; however, in the case of serially manufactured cranes, the sample number of cranes to be tested under a) and

c) should be established by mutual agreement between the "vendor" and the "purchaser".¹⁾

2.3 Cranes which leave the manufacturing factories ready for service shall be tested in these factories prior to delivery; cranes which are mounted or finally assembled at their places of use shall be tested at these places unless other agreements between the vendor and the purchaser are made.

3 Test procedures

3.1 Conformity tests

When cranes are tested for conformity to specifications, tests shall be performed according to the crane load characteristics, and the following parameters shall be verified :

- mass of crane (where practical);
- distance from axis of rotation to the balance edge;
- load lifting height;
- hook approaches;
- load lifting speed;
- precision load lowering speed;
- crane travelling speed;
- crab traversing speed;
- slewing speed;
- derricking time;
- telescoping time;
- cycle time (where necessary);
- functioning of limiting devices;
- performance of driving medium, for example, motor currents under test load conditions.

1) In legal terms, the "vendor" and the "purchaser" are understood to be the parties who have signed the contract. The "vendor" is the party supplying the crane. The "purchaser" is the party who receives the crane according to the contract.