International Standard 7363

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

Cranes and lifting appliances — Technical characteristics and acceptance documents

Grues et appareils de levage — Caractéristiques techniques et documents d'acceptation

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Descriptors : cranes (hoists), lifting equipment, specifications, certification, technical data sheets.

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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 7363 was prepared by Technical Committee ISO/TC 96, *Cranes, lifting appliances and related equipment*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Cranes and lifting appliances — Technical characteristics and acceptance documents

1 Scope

This International Standard establishes the form of presentation and content of the documents which a manufacturer should provide with cranes and lifting appliances (hereafter called "equipment"). Such documents give technical information and include acceptance documents for the equipment to facilitate its installation, testing and use. Specimen acceptance documents are given in the annex.

2 Field of application

This International Standard applies to all types of equipment defined in ISO 4306/1. For specific appliances, only data relating to these appliances (listed in ISO 4306/1) shall be included.

If necessary, the documents may be supplemented (or amended) with information to define specific features of a particular appliance.

3 References

ISO 4301, *Lifting appliances — Classification.*

ISO 4306/1, *Lifting appliances — Vocabulary — Part 1: General.*

4 Document content

4.1 The documents shall contain the basic specifications and nominal ratings of the equipment as supplied by the manufacturer, and shall list the principal parameters and operating conditions appropriate to the intended use of the equipment.

4.2 In compliance with clause 1, the documents shall contain general data, technical characteristics of the equipment and its assembly units, and acceptance documents.

4.3 Clause A.1, general data, shall contain information on both the vendor and the manufacturer of the equipment, basic data of the equipment, characteristics of the environment and job site, and other general information.

4.4 Clause A.2 on technical characteristics shall detail the equipment and its component parts in terms of overall dimensions, working configurations, mass of units and other relevant parameters.

4.5 The acceptance documents shall record technical data on the actual condition of the equipment and its component parts, and be witnessed and confirmed during the final tests by a competent person, prior to acceptance.

5 Presentation and format of documents

5.1 The documents shall be compiled in the national language (or languages in multilingual countries) of the country in which the equipment is to be used, unless otherwise decided by mutual agreement between the parties to the contract.

5.2 Should the contract provide for the documents to be presented in the language of the country of origin, then a second copy of the documents shall be supplied with all the sketches and dimensions inserted, but with the text omitted. This will facilitate a translation into the language(s) of the countries where the equipment is to be used.

5.3 The format of acceptance documents, which may vary from country to country, shall be in accordance with the national regulations or practice of the country of manufacture. Specimen acceptance documents are shown in clause A.5 of the annex.

5.4 The documents shall be compiled using A4 pages (of 210 mm × 297 mm) (for printed editions — 218 mm × 290 mm).

5.5 Where larger pages are required for technical data, then sizes 315 mm × 297 mm, 420 mm × 297 mm, etc. are preferred (for printed editions — 327 mm × 290 mm, 436 mm × 290 mm, etc.).

5.6 The layout of the tables may be altered if the data required by this International Standard are provided.

Annex

Specimen acceptance documents

(This annex forms an integral part of the Standard.)

ISO description of equipment : .....

.....

.....

Identification, equipment reference : .....

.....

.....

Technical characteristics and acceptance documents

[Space for manufacturer's and/or vendor's trade-name (trade-mark)]

Country : .....

Warning

1 These documents shall be available to the persons who own, operate, inspect, and maintain the equipment.

2 Before use, the owner/user shall have the equipment examined and tested (as appropriate) by a competent person. The results shall be recorded in clause A.5, Acceptance documents.

3 Other data which should be noted by the equipment owner/user/competent person :

3.1 : .....

3.2 : .....

3.3 : .....

Contents of annex

Name of document based on which the equipment has been manufactured : .....

.....

Number of document, date of issue and body issuing the document : .....

.....

A.1 General data

A.1.1 Name and address of manufacturer, including information on major sub-contractors : .....

A.1.2 Name and address of vendors (distributor or agent), including maintenance and spares facilities : .....

A.1.3 Equipment data

A.1.3.1 Illustration (photograph or sketch) of equipment in working position.

A.1.3.2 Equipment type (in accordance with ISO 4306/1) : .....

A.1.3.3 Serial No. : .....

A.1.3.4 Year of manufacture (ex-works) : .....

A.1.3.5 Group classification (in accordance with ISO 4301) : .....

A.1.3.6 Power source : .....

A.1.3.7 Function of equipment : .....

A.1.4 Environment where equipment can operate (temperature, permissible wind speed for both in-service and out-of-service conditions of equipment, and other features of the environment such as explosive, flammable or saline environments) : .....

.....

.....

A.1.5 Requirements on job site for mobile cranes (slope, permissible ground pressure, etc.) : .....

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.....

A.1.6 Requirements on tracks (parallelism, horizontality, alignment, maximum permissible difference in level across tracks) : ...

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A.1.7 Basic engineering codes of practice, regulations, technical supervision instructions, standards, etc. followed when manufacturing the equipment (designations and titles) : .....

.....

.....

A.2 Specifications and technical characteristics of equipment

A.2.1 Basic characteristics of equipment (for mobile cranes, with main working attachments)

A.2.1.1 Maximum load lifting capacity of main/auxiliary lift, t (e.g. 100/25 t) : .....

A.2.1.2 Maximum load moment of main/auxiliary lift, t·m : .....

A.2.1.3 Appropriate radius, m : .....

A.2.1.4 Minimum turning radius (for mobile cranes) m : .....

A.2.1.5 Appropriate maximum lifting height[1], m : .....

A.2.1.6 Maximum depth of lowering[1], m : .....

A.2.1.7 Span, cantilever outreach, m : .....

A.2.2 Drive and control

A.2.2.1 Type of drive : .....

A.2.2.2 Type of control : .....

A.2.2.3 Feasibility of carrying out combined operations : .....

A.2.2.4 Location of control stations : .....

A.2.2.5 Power supply : see table 1.

Table 1 — Power supply

Circuitry	Current A (a.c. or d.c.)	Voltage V	Number of phases
Power			
Control			
Working lighting			
Repairs lighting			

A.2.3 Height and load ratings

Tables and/or charts of height and load ratings (see A.2.3.1 and A.2.3.2) shall be drawn up for all those combinations of working applications and equipment configurations for which operation of the crane is envisaged.

Tables and/or charts shall be supplemented with necessary symbols and other indications for both calculating the load ratings and interpreting the tables and/or charts. Combination of tables and/or charts specified in A.2.3.1 and A.2.3.2 is allowed.

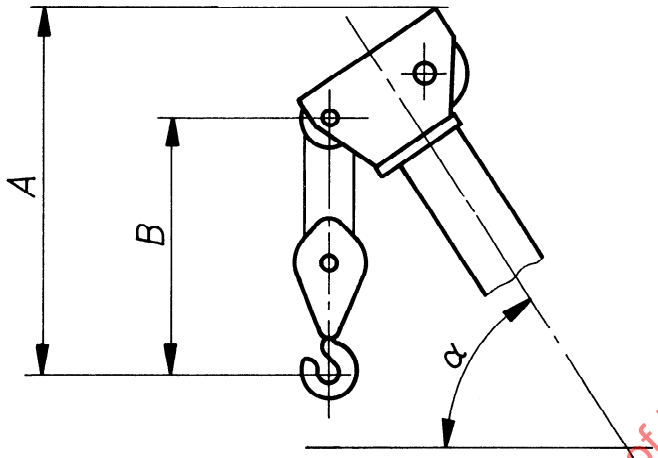
A.2.3.1 Lifting height ratings (tables and/or charts).

A.2.3.2 Load ratings (tables and/or charts).

1) Relative to a datum of ground level.

A.2.3.3 Maximum lifting capacity under travel, t : .....

A.2.3.4 Characteristics of hook blocks : see the figure and table 2.



Figure

Table 2 — Hook block characteristics

Characteristic	Number of pulleys					
	1	2	3	4	5	6
Maximum lifting capacity, t						
Mass, kg						
Maximum boom angle, α, ° (degrees)						
Dimension A, mm						
Dimension B, mm						

A.2.4 Speeds (for mechanisms having a number of speeds, all speed values or speed ranges shall be given in A.2.4.1 to A.2.4.6).

A.2.4.1 Speed of load lifting/lowering, m/s : see table 3.

Conditions leading to higher speeds shall be stated underneath the table, for example : "When operating without load" or "With load not exceeding 50 % of that specified in A.2.3.2", etc.

Table 3 — Load lifting and lowering speeds

Rope fall of reeving system	Main lift			Auxiliary lift		
	Rated	Fast	Precision lowering	Rated	Fast	Precision lowering

A.2.4.1.1 Derricking time (for main boom), s : .....

A.2.4.2 Angular speed (to be specified for all configurations of working equipment, for example, main boom, booms with extensions, tower-jib equipment, etc.), rad/s (rpm) : .....

A.2.4.3 Boom section extension/retraction speed, m/s : .....

A.2.4.4 Trolley traverse speed, m/s : .....

A.2.4.5 Travel speeds of equipment, working and travelling (all speeds of equipment for both forward and reverse directions or their ranges shall be specified), km/h or m/s : .....

A.2.5 Gradeability (values for all configurations of crane transfer shall be specified), rad. (°) : .....

A.2.6 Slewing platform rotation angle (to be specified only for equipment having limited slew; relative positions of revolving superstructure and base mounting of the equipment shall be specified), rad. (°) : .....

A.2.7 Basic dimensions of equipment (sketches of the equipment and tables containing equipment basic dimensions).

A.2.8 Mass of equipment and major component parts, t : .....

A.2.9 Loads of wheel and outrigger on ground, kN : .....

A.2.10 Mean ground pressure (for crawler cranes), Pa : .....

A.2.11 Mass distribution, t (if requested by the purchaser) : .....

A.2.12 Additional information (as required, e.g. minimum radius in curves for mobile cranes, m) : .....

.....

A.3 Specifications and technical characteristics of assembly units

A.3.1 Driving engines (power plant engines) (basic ratings such as horsepower, rpm, torque, specific fuel consumption, etc. shall be specified).

A.3.2 Electric and/or hydraulic machinery for mechanism drives (basic ratings such as power, rpm, torque, load rating, etc. plus total power of electric motors shall be specified).

A.3.3 Schematic diagrams of drive and control systems (schematic diagrams with characteristics of equipment shall be given).

A.3.3.1 Electric circuit diagram.

A.3.3.2 Hydraulic circuit diagram.

A.3.3.3 Pneumatic circuit diagram.

A.3.3.4 Diagram of gears (parameters of gearings and reduction gear ratios shall be specified on the diagram).

A.3.3.5 Group classification for mechanisms (listed below) :

- main lift
- auxiliary lift
- boom elevation
- crane slewing
- trolley traverse
- crane travel, etc.

} To be filled in according to ISO 4301.

A.3.3.6 Characteristics of brakes : see table 4.

Table 4 — Characteristics of brakes

Mechanism controlled by brake	
Brake location	
Type (system)	
Brake pulley (disc) diameter, mm	
Number of brakes	
Braking safety margin (only for hoist brakes)	

A.3.4 Reeving diagrams (dimensions of drums, sheaves and methods of anchoring ropes and chains shall be specified on the diagrams).

A.3.5 Characteristics of ropes (to be filled in according to a declaration of conformity issued by rope manufacturer) : see table 5.

Table 5 — Characteristics of ropes

Rope function	
Rope class (designation of ISO or national standard)	
Rated diameter, mm	
Length, m	
Tensile grade of rope, MPa	
Actual breaking load, N (kg)	
Design rope pull, N	
Rope working load limit, kg	
Surface finish of wire (bright, galvanized, etc.)	

A.3.6 Load handling devices (to be filled in according to a declaration of conformity issued by load handling device manufacturer).

A.3.6.1 Hooks : see table 6.

Table 6 — Characteristics of hooks

Function	
Type	
Number and designation according to Standard	
Rated lifting capacity with regard to hoist group classification (safe lifting capacity), t	
Manufacturer (supplier)	
Serial No.	
Inspection department stamp (identification marking)	