INTERNATIONAL STANDARD

ISO 8566-1

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Cranes — Cabins —

Part 1: General

Appareils de levage à charge suspendue — Cabines —

Partie 1: Généralités

Reference number
ISO 8566-1:1992(E)

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8566-1 was prepared by Technical Committee ISO/TC 96, *Cranes*, Sub-Committee SC 9, *Bridge and gantry cranes*.

ISO 8566 consists of the following parts, under the general title *Cranes -- Cabins*:

— *Part 1: General*

— *Part 2: Mobile cranes*

— *Part 3: Tower cranes*

— *Part 4: Jib cranes*

— *Part 5: Overhead travelling and portal bridge cranes*

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Cranes — Cabins —

Part 1: General

1 Scope

This part of ISO 8566 specifies the general requirements for cabins from which cranes, as defined in ISO 4306-1, are operated.

It takes into consideration the conditions of use of the cabin.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8566. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8566 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2631-1:1985, *Evaluation of human exposure to whole-body vibration — Part 1: General requirements.*

ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General.*

ISO 5353:1978, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point.*

ISO 6081:1986, *Acoustics — Noise emitted by machinery and equipment — Guidelines for the preparation of test codes of engineering grade requiring noise measurements at the operator's or bystander's position.*

ISO 7096:1982, *Earth-moving machinery — Operator seat — Transmitted vibration.*

ISO 7752-1:1983, *Lifting appliances — Controls — Layout and characteristics — Part 1: General principles.*

3 Definitions

For the purposes of ISO 8566, the following definitions apply.

3.1 crane cabin: Space in a crane or in its immediate vicinity which is specially designed, built and equipped for operating the crane.

3.2 control device: Part of the control system of the crane, by means of which the desired control command is conveyed to the operating device.

3.3 control element: Part of a control device, such as push buttons, levers, pedals and switches, the manipulation of which creates the desired control command.

3.4 Seat index point (SIP): (See ISO 5353.)

4 Cabin construction

4.1 The construction of the crane cabin shall be sufficiently robust to withstand all normal working loads imposed on it during operation and maintenance of the crane. These include the presence of a driver, and movement-induced stresses.

The cabin shall be reliably secured to the crane. The dimensions of supporting structures shall meet the requirements for dimensions of the crane structure.

When the cabin is mounted on the crane using vibration dampers or other vibration-isolating devices, a secondary fixing system preventing loss of the

cabin shall be provided. Mounting bolts shall be reliably secured.

4.2 All cabin-supporting structures shall be of non-combustible material. Cabin linings, furnishings, and fittings shall be of non-flammable or fire-retardant materials.

4.3 The cabin shall be spacious enough to ensure that the driver is able to work and move under ergonomically good conditions.

Cabin dimensions shall be chosen to take into account the type of work and the length of continuous working periods of the driver. The requirements for minimum dimensions are given in ISO 8566-3 for tower cranes, ISO 8566-4 for jib cranes and ISO 8566-5 for overhead travelling and portal bridge cranes, and will form the subject of ISO 8566-2 for mobile cranes.

In addition, those parts of the cabin where the driver stands, or must work in a standing position, shall have a minimum internal height of 2 m.

4.4 The cabin interior shall be free of projecting parts, controls excepted, which might cause injury. Where projections are necessary they shall be suitably covered or protection provided. Particular attention to this aspect at head-height and above is required.

4.5 Electric wiring shall run separately from hydraulic lines. Both shall be effectively protected against damage where a risk exists.

4.6 The cabin interior shall be such that it can be quickly and easily cleaned. In addition, the floor shall have a non-slip surface.

4.7 When required, the cabin shall be equipped with sufficient and suitable interior lighting.

Local lighting for the controls, which is substantially free from glare and unwanted reflections, may be necessary: this light source shall be operated by a separate switch. A power-socket shall be provided to facilitate maintenance activities.

4.8 Where a cabin roof is intended to drain water off, the water shall not run over the windows or door.

4.9 The cabin shall have safe access and egress.

A cabin door, when fitted, shall be prevented from inadvertent opening while the crane is in operation.

5 Driver's seat

The cabin shall be equipped with a seat suitable for operating the crane and that minimizes driver fatigue.

6 Visibility

6.1 Maximum visibility consistent with structural requirements and operational safety shall be provided.

6.2 The cabin shall be so placed, and the size and location of the window openings so chosen, as to allow the driver easy supervision of loading, and of load transfer operations, from his seat. For some cranes this may necessitate provision for moving or rotating the cabin, or other means.

6.3 Cabin windows shall be of safety-glass or its equivalent, and designed for easy cleaning.

If necessary, windscreen wipers and washers shall be fitted to improve visibility.

6.4 If protective grilles are used in floor windows and skylights, they shall obstruct vision as little as practical.

6.5 When necessary, the cabin shall be fitted with shields which minimize glare without rectricting visibility.

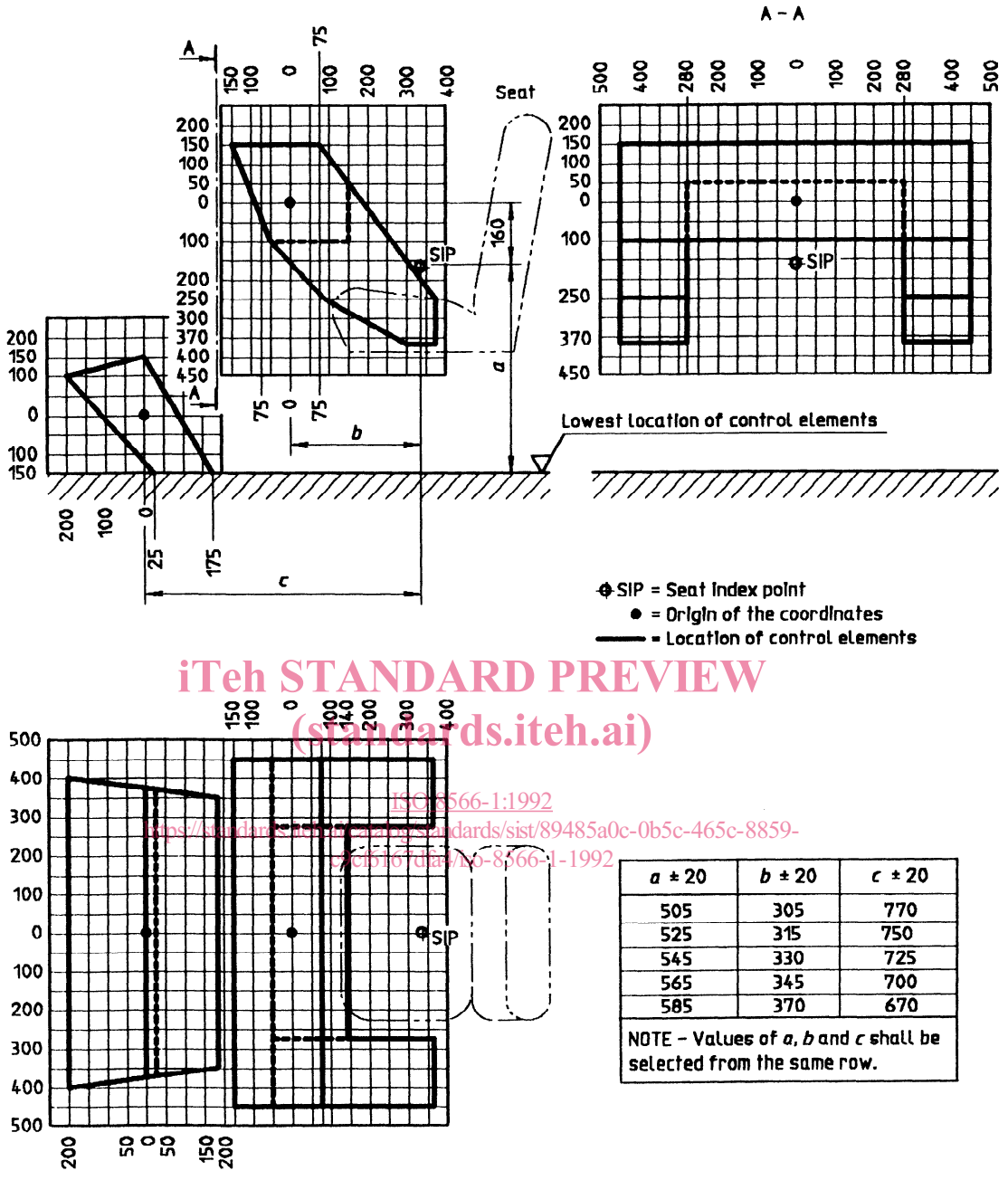
7 Control elements

7.1 The layout and characteristics of control elements shall be in accordance with ISO 7752-1.

7.2 Control elements shall be located in the areas depicted in figure 1.

7.3 Control elements shall have adequate clearance from each other and from other parts of the cabin. The specific values for the clearances will be given as necessary in other parts of ISO 8566 for each type of crane.

Dimensions in millimetres



a ± 20	*b* ± 20	*c* ± 20
505	305	770
525	315	750
545	330	725
565	345	700
585	370	670

NOTE – Values of *a*, *b* and *c* shall be selected from the same row.

Figure 1 — Location of control elements

8 Information

8.1 Indicators which are important operationally shall have prominent displays and be conveniently located relative to the driver.

8.2 Indicators and warning lights shall be provided with clear and permanent identification markings.

8.3 Indicators shall have a suitable scale range, and shall be arranged for easy reading.

8.4 Warning lights shall be of an appropriate colour. Any indication of danger shall be given with a red light.

8.5 Control panel and indicator illumination where provided shall be non-glare and, where necessary, capable of being dimmed.

9 Noise

9.1 In order to reduce the noise at the operator's position in the cabin, the technical possibilities of noise reduction should be taken into consideration. In the determination of the final exposure to noise, noise both from the crane under normal working conditions and from other equipment (background noise) at the workplace shall be taken into account. The effect of noise due to different movements of the crane shall be taken into consideration, weighted against the duration of the noise in normal working conditions.

9.2 When the crane is mounted (installed) and running under normal working conditions, the equivalent continuous A-weighted sound pressure level, as determined in accordance with ISO 6081, measured at the driver's ear shall not exceed 85 dB during a working day of 8 h. The "normal working conditions" should be determined for each type of crane.

9.3 Sound insulating materials and accessories shall be firmly and securely fixed in place.

10 Vibration

10.1 The whole-body vibration, i.e. the vibration transmitted through the driver's seat to the operator, shall be measured in accordance with ISO 7096.

10.2 This vibration shall be evaluated in accordance with ISO 2631-1, based on a daily exposure time of 8 h. ISO 2631-1 gives an indication of the maximum allowable r.m.s. values.

10.3 The working conditions in the cabin shall be such that the driver is not exposed to vibration conditions greater than those advised for the fatigue-decreased proficiency boundary in ISO 2631-1.

11 Heating and air-conditioning

11.1 Heating and air-conditioning of the cabin shall be subject to agreement between the purchaser and supplier.

11.2 Where necessary, noxious gases and excessive heat entering the cabin shall be limited to a level specified by agreement between the purchaser and supplier.

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Descriptors: handling equipment, lifting equipment, cranes (hoists), operating stations, specifications, generalities.

Price based on 4 pages