SLOVENSKI STANDARD
SIST EN 1865-1:2010

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Specifikacija za opremo za ravnanje s pacienti v reševalnih vozilih - 1. del: Specifikacija za splošne sisteme nosil in opremo za ravnanje s pacienti

Patient handling equipment used in road ambulances - Part 1: Specification for general stretcher systems and patient handling equipment

Krankentransportmittel im Krankenkraftwagen - Teil 1: Festlegung für allgemeine Krankentragensysteme und Krankentransportmittel

Equipements d'ambulance pour le transport de patients - Partie 1: Spécifications de systèmes généraux de brancards et équipement pour le transport de patients

Ta slovenski standard je istoveten z: **EN 1865-1:2010**

ICS:

11.160	Prva pomoč	First aid
43.160	Vozila za posebne namene	Special purpose vehicles

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EUROPEAN STANDARD

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EN 1865-1

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ICS 11.160; 43.160

Supersedes EN 1865:1999

English Version

Patient handling equipment used in road ambulances - Part 1: Specification for general stretcher systems and patient handling equipment

Spécifications d'équipements pour le transport de patient dans les ambulances routières - Partie 1: Systèmes généraux et équipement pour le transport de patient

Krankentransportmittel im Krankenkraftwagen - Teil 1: Festlegung für allgemeine Krankentragesysteme und Krankentransportmittel

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 1865-1:2010) has been prepared by Technical Committee CEN/TC 239 “Rescue systems”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2011, and conflicting national standards shall be withdrawn at the latest by February 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

Together with EN 1865-2, EN 1865-3, EN 1865-4 and EN 1865-5 this document supersedes EN 1865:1999.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard is a part of EN 1865, *Patient handling equipment used in road ambulances*, which consists of the following parts:

— *Part 1: Specification for general stretcher systems and patient handling equipment*

— *Part 2: Power assisted stretcher*

— *Part 3: Heavy duty stretcher* (at draft stage)

— *Part 4: Mechanical assisted transfer chair* (at draft stage)

— *Part 5: Stretcher support* (at draft stage)

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard incorporates specifications for:

— main stretcher − undercarriage;

— chair stretcher;

— transfer mattress;

— carrying sheet;

— pick up stretcher;

— vacuum mattress and pump;

— long spinal board;

— foldable carrying chair;

— non-foldable carrying chair.

Stretcher systems and patient handling equipment covered by this standard EN 1865-1 are for use in road ambulances.

In this standard reference is made to EN 1789 which specifies design requirements and test methods for road ambulances, which are relevant for checking requirements for such handling equipment.

NOTE Standardisation work will continue with the aim of ensuring the safe transfer of patients and equipment without compromising continuity of patient care and the safety of staff.

1 Scope

This European Standard defines minimum requirements for the design and performance of stretchers and other patient handling equipment used in road ambulances for the handling and carrying of patients. It aims to ensure patient safety and minimize the physical effort required by staff operating the equipment.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 597-1, *Furniture — Assessment of the ignitability of mattresses and upholstered bed bases — Part 1: Ignition source: Smouldering cigarette*

EN 980, *Symbols for use in the labelling of medical devices*

EN 1021-1, *Furniture — Assessment of the ignitability of upholstered furniture — Part 1: Ignition source smouldering cigarette*

EN 1041, *Information supplied by the manufacturer of medical devices*

EN 1789:2007+A1:2010, *Medical vehicles and their equipment — Road ambulances*

EN ISO 14971, *Medical devices — Application of risk management to medical devices (ISO 14971:2007, Corrected version 2007-10-01)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
main stretcher
main device for the conveyance of a sick and/or injured person or those in labour with the purpose to transport patients in safety and in comfort whilst facilitating treatment

3.2
chair stretcher
device designed to handle and carry a patient in a sitting or lying position, including conveying a patient in the vehicle

3.3
transfer mattress
device intended to facilitate the transfer of the patient from one stretcher to another

3.4
carrying sheet
special sheet to handle and carry a patient in a lying or sitting position

3.5
pick up stretcher
lifting device, intended to be used for movement of seriously injured people on to other transport devices

3.6
vacuum mattress
device intended primarily to provide immobilization for the patient during transportation

3.7
long spinal board
device designed for lifting and immobilising patients

3.8
foldable carrying chair
device intended to handle and carry a patient in a sitting position to the road ambulance but not to be used to transport a patient within the ambulance

3.9
non-foldable carrying chair
device intended to handle and carry a patient in a sitting position to the road ambulance and to be used to transport a patient within the ambulance

4 Requirements

4.1 General

When lifting and carrying devices are operated and maintained in accordance with manufacturer instructions they shall not present any high level of risk. Any identified risk shall be reduced to an acceptable level by using risk management principles in accordance with EN ISO 14971 taking account of normal and single fault condition.

Carrying handles on devices for handling of patients shall permit fixation in extended positions.

All equipment for the handling of patients shall be free of any sharp edges. The minimum radius should be 0,5 mm.

All patient restraint-systems shall have a quick release system.

The lying-sitting part shall be made of a strong material which is bacterial resistant, fungal resistant, stain resistant, putrid resistant, easy to clean and disinfect, washable, waterproof and petrol-oil resistant.

4.2 Main stretcher

4.2.1 General

The main stretcher shall consist of a stretcher part that can be used either alone or in combination with an integrated or detachable undercarriage.

It shall be designed so that the full weight of the patient and the carried stretcher part will only be lifted/carried by the personnel for the minimum period of time.

4.2.2 Dimensions

Dimensions shall be measured from the outermost edges.

— Stretcher part: length: $(1\ 950\ ^{+20}_{-50})$ mm;

width: (550 ± 20) mm;

height: maximum 300 mm from loading holding assembly to unloaded lying part. This height dimension does not apply to stretchers with monoblock undercarriages. If a monoblock is not available, the stretcher shall be constructed such that it is detachable from the undercarriage. Where a stretcher support is used the measurement shall be taken from the top surface of the stretcher support to the lying part of the stretcher.

— Undercarriage: length and width of the frame of the undercarriage when located in the ambulance shall not exceed length and width of the stretcher part.

4.2.3 Mass

The mass excluding mattress and patient restraints shall not be more than:

— Stretcher part: 23 kg;

— Undercarriage including stretcher: 51 kg max (combined weight);

— Stretcher part with integrated undercarriage: monoblock 45 kg.

NOTE In all cases the mass should be as low as possible.

4.2.4 Loading capacity

The loading capacity shall be a minimum of 150 kg.

4.2.5 Frame

4.2.5.1 General

The frame shall be a sturdy lightweight non twisting construction enabling use of cardiopulmonary resuscitation. All corners of the frame shall be radiused for greater safety.

It shall be possible to lock and secure the stretcher and undercarriage against lateral, longitudinal, vertical movements.

All mechanisms shall be constructed to prevent damage to the user and the patient.

4.2.5.2 Stretcher parts

a) If swing-down side rails are mounted, they shall have a minimum length of 500 mm and a minimum height between 150 mm and 200 mm measured from the top of the stretcher frame to the top of the side rail.

b) If longitudinal handles are incorporated they shall be fitted to the ends of the longitudinal frame such that they lock and do not twist when they are stowed or in use. They shall be designed to minimise the risk of injuries to hands and wrists when being operated or when the stretcher is carried in a non-horizontal position. The stretcher shall allow the fixation and use of a carrying harness.

c) The stretcher shall either have a water and scratch resistant paint finish or be manufactured of corrosion resistant material. Both shall be unaffected by disinfectants.

d) If intended to be used without undercarriage there shall be four wheels with a minimum diameter of 100 mm suitably placed to ensure stability.

e) If intended to be used with undercarriage the stretcher shall be able to be fixed to the undercarriage without using supplementary means. A safe handling and lowering of the undercarriage shall be ensured.

f) The fixed stretcher shall be easy to release from the stretcher fastener.

NOTE There should be a facility to attach a support for infusion.

4.2.5.3 Undercarriage

a) The undercarriage shall be fitted with four wheels with a diameter of at least 100 mm. At the foot end there shall be a minimum of two wheels that swivel 360° and at least two wheels shall be fitted with a brake.

b) The undercarriage shall be suitable for a road ambulance loading and unloading with a maximum height of 750 mm.

c) The undercarriage shall have a simple mechanism for height adjustment and shall have a minimum of two levels (car position and fully unfolded).

d) The supporting mechanism shall automatically stay in place when fully unfolded.

e) The operating controls shall be ergonomically designed to take into consideration human body dimensions and physical strength, and anatomical and physiological requirements of human beings. The operating controls shall be clearly and permanently labelled, preferably with graphical symbols, indicating their positions and settings. If the controls can initiate movements which could be dangerous to persons, they shall be secured against unintentional operation.

f) All functions of the stretcher shall remain completely unimpaired when it is connected to the undercarriage.

g) The undercarriage shall have either a water and scratch resistant paint finish or be manufactured of corrosion resistant material. Both shall be unaffected by disinfectants.

h) If the undercarriage is used with a detachable stretcher it shall be possible to connect or disconnect them easily. The stretcher shall be secured in such a manner that unintentional separation of undercarriage and stretcher cannot occur. It shall be possible to load and unload the undercarriage and stretcher to ensure the safety and comfort of the patient and the operators.

4.2.6 Lying part of the stretcher

a) The lying area shall be flat over the complete surface and shall be made of sturdy lightweight construction. The thorax area shall be manufactured of sturdy lightweight material which allows cardiopulmonary resuscitation without acting as a spring or giving way. The materials shall be unaffected by disinfectants.

b) The lying area shall be non-slip and shall be covered with a transfer mattress, or a mattress that shall provide for patient comfort. It shall be firm enough to enable cardiopulmonary resuscitation to be undertaken. The mattress shall be able to conform to the various treatment configurations provided by the stretcher. The mattress shall have welded seams to prevent the ingress of patient fluids and facilitate infectious control cleaning; in addition, the materials shall be unaffected by disinfectants. The mattress shall be fixed securely to the lying part of the stretcher.

c) The lying area shall have an adjustable head-end/-backrest with a minimum length of 600 mm. It shall be possible to raise the backrest at least 75° and there shall be at least five fixing positions within this range. It shall be possible to maintain the angle of adjustment under all normal conditions of loading and unloading.

d) The lying area shall have an adjustable footrest with a minimum length of 900 mm. It shall be possible to raise the leg section (shock position) by at least 15°. It shall be possible to maintain the angle of adjustment under all normal conditions of loading and unloading.