

Nederlandse norm

# NEN-EN 1865

Specificaties voor brancards en andere middelen voor het vervoer van patiënten in ambulances

Specifications for stretchers and other patient handling equipment used in road ambulances

Vervangt NEN-EN 1865:1995 Ontw.

ICS 11.140; 11.160; 43.160

oktober 1999

Als Nederlandse norm is aanvaard:  
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Beleidscommissie Medische hulpmiddelen

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EN 597-1	NEN-EN 597-1	Meubelen - Bepaling van de ontvlambaarheid van matrassen en bedbodems -
EN 980	NEN-EN 980	Deel 1: Ontstekingsbron: smeulende sigaret Grafische symbolen voor gebruik bij het merken van medische hulpmiddelen
EN 1021-1	NEN-EN 1021-1	Meubelen - Bepaling van de ontvlambaarheid van beklede meubelen - Deel 1: Ontstekingsbron: smeulende sigaret
EN 1041	NEN-EN 1041	Informatie die door de fabrikant bij medische hulpmiddelen wordt geleverd
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ICS 11.140; 11.160; 43.160

English version



## Specifications for stretchers and other patient handling equipment used in road ambulances

Spécifications des brancards et équipements d'ambulances pour le transport des patients

Festlegungen für Krankentragen und andere Krankentransportmittel im Krankenkraftwagen

This European Standard was approved by CEN on 8 August 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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 Central Secretariat has the same status as the official versions.

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## Foreword

This European Standard 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of an identical text or by endorsement, at the latest by March 2000, and conflicting national standards shall be withdrawn at the latest by March 2000.

This European Standard 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 standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This European Standard with the general title "Specifications for stretchers and other patient handling equipment used in road ambulances" 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

This European Standard is closely related to prEN 1789 "Medical vehicles and their equipment - Road ambulances".

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 patients handling equipment used in road ambulances for handling and carrying a patient in such a way that supplementary injuries due to handling are reduced to a minimum.

## 2 Normative references

This European Standard incorporates by dated or undated reference provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-2

Safety of machinery - Basic concepts, general principles for design – Part 2: Technical principles and specifications

EN 597-1

Furniture – Assessment of the ignitability of mattresses and upholstered bed bases – Part 1: Ignition source: Smouldering cigarette

EN 980

Graphical 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 (ISO 8191-1 : 1987, modified)

EN 1041

Information supplied by the manufacturer with medical devices

### 3 Definitions

For the purposes of this standard, the following definitions apply:

#### 3.1 Main stretcher

The main means for the conveyance of sick and/or injured persons in transit in a recumbent position in safety and in comfort whilst facilitating treatment.

#### 3.2 Chair stretcher

A 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

A device intended to facilitate the transfer of the patient from one stretcher to another.

#### 3.4 Carrying sheet

A special sheet to handle and carry a patient in a lying or sitting position.

#### 3.5 Pick up stretcher

A lifting device, intended to be used for movement of seriously injured people on to other transport devices.

#### 3.6 Vacuum mattress

A device intended primarily to provide whole body immobilization during the transportation of the patient.

#### 3.7 Long spinal board

A device to lift and immobilize patients with spinal injuries.

#### 3.8 Foldable carrying chair

A 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

A 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

All equipment for handling of patients shall guarantee a safe and smooth manipulation.

All equipment for handling of patients shall be secured so that any movement during ambulance transport is prevented, even in bad transport conditions.

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

All equipment for handling of patients shall be free of any sharp edges or deformation that could cause damage to persons or other equipment on board.

For all patients transported in the patients compartment, patient restraint-systems shall be available.

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

The patient restraint-system for all patient handling equipment shall immobilize the patient, but at the same time shall permit treatment of the patient.

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



## 4.1 Main stretcher

### 4.1.1 General

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

It shall be designed to provide 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.

It shall be designed to provide that during loading and unloading the maximum burden on any personnel is half of the total weight of patient and stretcher and for the minimum possible time and in an optimal ergonomic position so that back bending is minimized.

### 4.1.2 Dimensions

Dimensions shall be measured from the outermost edges.

Stretcher part:	length:	$(1950 \pm \frac{20}{50})$ mm
	width:	$(550 \pm 20)$ 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 must be constructed such that it is detachable from the undercarriage.

Undercarriage: length and width of the frame of the undercarriage in car position shall not exceed length and width of the stretcher part.

### 4.1.3 Mass

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

Stretcher part:	23 kg
Undercarriage:	28 kg
Stretcher part with integrated undercarriage: monoblock	45 kg

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

### 4.1.4 Loading capacity

The loading capacity shall be a minimum of 150 kg.

### 4.1.5 Frame

The frame shall be in 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 and oblique movements.

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

#### 4.1.5.1 Stretcher parts

- If swing down siderails are mounted, they shall have a minimum length of 500 mm and a height between 150 mm and 200 mm.
- 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 minimize the risk of injuries to the hands and wrists when the stretcher is carried at angles. It shall allow the fixation and use of a carrying harness and yoke.
- There shall be a facility to attach a support for infusion.
- The longitudinal bars shall be connected together such that torsion is avoided.

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