

Understanding new EU Safety Standards with NordBed Kid



Knowledge bank

Understanding EN 50637:2017

This guide has been produced by Invacare for healthcare professionals addressing how the NordBed Kid meets EN 50637:2017, the safety and essential performance of medical beds for children.

When we designed the NordBed Kid safety was paramount and we believe our product standards are industry-leading. From the safe locking mechanism of the foldable doors, to the holder which securely stows the handset from the child's reach.

Definitions

The Standard defines a child as a patient having a physical size equal to or less than 155cm and a mass equal to or less than 70kg.

A cot is a medicinal bed with an internal length from and including 90cm up to 140cm provided with protection side rails also intended for children able to stand up in bed.

Junior bed is a medical bed with an internal length from and including 140cm up to 180cm.

An oversized cot has an internal length from and including 140cm up to 180cm provided with protection side rails also intended for children able to stand up in bed.

When a side rail is closed/fully raised, it provides a physical barrier, which is intended to reduce the risk of the child accidentally slipping or rolling off the mattress.

A protection side rail prevents the child from getting out of bed by themselves, and which can be movable, eg. sliding sides, drop sides, folding sides.

Child height and bed selection

Requirement: The choice of bed should be determined on the child's height and care needs for example, a cot bed should have a minimum 60cm height sides.

NordBed Kid is available in three sizes:

Childs Height	Standard Approved Bed Length	Applicable NordBed Kid
75-125cm	140cm	Small (Cot)
125-135cm	160cm	Medium (Junior)
135-154cm	180cm	Large (Junior)

Minimum and maximum lengths of the child in the cot vs. a junior bed



- A cot must always be 15cm longer than the child
- A junior bed must always be 25cm longer than the child



NordBed Kid has foldable door, fixed sides and lowerable side options.

Side rail options

	Fixed Side	Lowerable Side	Foldable Door
NordBed Kid	40cms	40cms	40cms
Medium (Junior)	✓	✓	✓
Large (Junior)	✓	✓	✓



Protective rails

	Fixed Side	Foldable Door
NordBed Kid	80cms	80cms
Small (Cot)	✓	✓
Medium (Junior)	✓	✓
Large (Junior)	✓	✓



All woodwork is available in beech bars as standard and Perspex as special.

Safe Working Load

Requirement: The bed should have a safe working load of 100-115kgs.

NordBed Kid beds has been designed to meet this requirement, and the safe working loads are as follows:

NordBed Kid	Safe Working Load
Standard Requirement	100kgs-115kgs
Small (Cot)	100kgs
Medium (Junior)	115kgs
Large (Junior)	115kgs

Entrapments

Requirement: Closed openings to withstand stronger force 125 N (current 'Nordic requirement specification for children beds' requires only 30 N).

Requirement: Cone test entrapments between the mattress and side rail specifications.

- ▶ 40mm representing neck diameter
- ▶ 300mm representing chest breadth
- ▶ 60mm representing head breadth

Requirement	NordBed Kid Small (Cot)	NordBed Kid Medium and Large (Junior)
No accessible holes between 5mm and 25mm, unless the depth is less than 10mm	✓	NA
No accessible holes between 7mm and 25mm, unless the depth is less than 10mm	NA	✓
Enclosed openings less than 60mm and withstand 125 N	✓	✓
'Open' gaps must be <40mm (eg. side rail with headboards)	✓	NA
Gap between side rail and foot board must be <40mm or >300mm	NA	✓
125 N Strength test	Oval bars for enhanced strength	Oval bars for enhanced strength
Gap between side rail, head/ foot board at mattress is required to pass the cone test	Mattress retainer welded to keep mattress in place	Mattress retainer welded to keep mattress in place

Stability

Requirement: Bed to remain stable with 70kgs weighted load.

NordBed Kid can withstand 70kgs of weighted load to the bed side rails, while positioned in its maximum height and doors fully open in the most adverse position. To maximise stability, Invacare has:

- ▶ Expanded the bed width to 80cm
- ▶ Increased the weight of the bed base
- ▶ Designed oval shaped bars on the side rails to increase strength and rigidity
- ▶ Ensured lockable doors can only be opened in sequence ie, middle door opened and locked before the outer door can be opened



Protruding parts

Requirement: The bed must not have any protruding parts inside the bed, to avoid injury to child.

We have rounded the edges on the bed metal work, and we have used additional wood to ensure there are no entrapments or possible injuries to the child.

NordBed Kid foldable doors have a new top latch locking mechanism, where the design avoids any potential snagging or injury while the child is in the bed.

Handset locker

Requirement: The handset to be stored in a lockable and safe place, so the child/any child cannot operate the bed.

The handset locker holder has been positioned at the foot of the bed and can only be opened by releasing two buttons. This ensures children cannot operate the bed, and the handset controls are securely stowed when not in use.



Bio-compatibilities

Requirement: All parts which come in contact with the patient to be biocompatible

Where plastic has been used in the manufacture of the NordBed Kid, we have ensured the components are fully biocompatible, ensuring they are not toxic and minimising potential allergic reactions.

Labelling

Requirement: Clear safety labelling on the bed

NordBed Kid beds have clear bed labelling including maximum patient weight, height and positioning, safe working load and more - to remind the carer how to use the bed safely.

This document is an overview of standard EN 50637:2017. For full standard requirements check with the European Commission.

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