SLOVENSKI STANDARD
oSIST prEN 16796-6:2018

01-oktober-2018

Vozila za talni transport - Energijska učinkovitost - Preskusne metode - 6. del: Kontejnersko luško dvigalo

Energy efficiency of industrial trucks - Test methods - Part 6: Container Straddle Carriers

Energieeffizienz von Flurförderzeugen - Testmethoden - Teil 6: Container Portalhubwagen (Container Straddle Carrier)

Efficacité énergétique des chariots de manutention - Méthodes d'essai - Partie 6 : Chariots cavaliers porte-conteneur

Ta slovenski standard je istoveten z: **prEN 16796-6**

ICS:

27.015	Energijska učinkovitost. Ohranjanje energije na splošno	Energy efficiency. Energy conservation in general
53.060	Industrijski tovornjaki	Industrial trucks

oSIST prEN 16796-6:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 16796-6

July 2018

ICS 53.060

English Version

Energy efficiency of industrial trucks - Test methods - Part 6: Container Straddle Carriers

Efficacité énergétique des chariots de manutention - Méthodes d'essai - Partie 6 : Chariots cavaliers porte-conteneur

Energieeffizienz von Flurförderzeugen - Testmethoden - Teil 6: Container Portalhubwagen (Container Straddle Carrier)

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 150.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (prEN 16796-6:2018) has been prepared by Technical Committee CEN/TC 150 “Indutrial Trucks - Safety”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

EN 16796 consists of the following parts, under the general title Energy efficiency of Industrial trucks — Test methods:

— Part 1: General

— Part 2: Operator controlled self-propelled trucks, towing tractors and burden-carrier trucks

— Part 3: Container handling lift trucks

The following parts are under preparation:

— Part 4: Rough-terrain trucks

— Part 5: Trucks with elevating operator position and trucks specifically designed to travel with elevated loads

Introduction

In Europe, the EN 16796 series has been prepared to provide one means of conforming to the Essential Requirements of the New Approach Ecodesign Directive 2009/125/EC (ErP) and corresponding Commission Regulations.

The content of this standard is of relevance for the following stakeholder groups:

— machine manufacturers (small, medium-sized and large enterprises);

— market surveillance authorities;

— machine users (small, medium-sized and large enterprises);

— service providers, e.g. for consulting activities.

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machineries concerned are indicated in the scope of this document.

1 Scope

This part of EN 16796 specifies the methods of energy consumption measurement for container straddle carriers, as defined in ISO 5053-1:2015.

This part is intended to be used in conjunction with EN 16796-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 16796-1:2016, *Energy efficiency of Industrial trucks — Test methods — Part 1: General*

ISO 5053-1, *Industrial Trucks — Terminology and classification — Part 1 Types of Industrial Trucks*

ISO 668, *Series 1 freight containers — Classification, dimensions and ratings*

3 Terms and definitions

For the purposes of this document, the following terms and definitions given in ISO 5053-1 and EN 16796-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
automatic container detection
automatic positioning of the spreader on the container

3.2
2 – high (3 – high; 4 – high)
numbers of containers which could be stacked by the truck

4 Test conditions

4.1 General

By way of derogation from part 1 and/or 3, the following test conditions shall be observed.

4.2 Test load

The test load shall be 30,48 tons according to ISO 668.

A container with a height of 2,58 m (8‘6“) and a length of 6 m (20‘) shall be used in the test.

If a different container size and/or a different load is used, this should be documented in the test report.

The travelling position shall be in 1-high position, meaning lower corner of spreader at a hoisting height of 3,4°m to 3,6 m above ground.

4.3 Truck conditions

Following truck equipment shall be switched off:

— air-conditioning system;

— running light;

— working light;

— automatic container detection.

If the test truck does have a stability-control system, it shall be switched on.

4.4 Environmental conditions

The measurement shall be carried out at an environmental temperature range between 5 °C and up to 25 °C.

The maximum wind speed shall not exceed a max. of 10,8 m/s (6 Bft[1]).

5 Measurement procedure

5.1 General

EN 16796-1:2016, Clause 5 applies together with the following clauses that are describing specific information for container handling lift trucks.

Measurement is starting with machine loaded and fully supported / twist locks engaged and travelling position height at point A.

5.2 Operating sequence

The cycle shall be performed according to Figure 1 and Table 1. The number of 5 cycles shall be completed.

[1] The Beaufort scale (Bft) is an empirical measure that relates wind speed to observed conditions at sea or on land. Its full name is the Beaufort wind force scale.

Table 1 — Test specification for container straddle carriers

	2 - high	**3 – high**	**4 - high**
Rated capacity Q	30 < Q < 60	30 < Q < 60	30 < Q < 60
Test duration [h]	1	1	1
No. of cycles [1/h]	5	5	5
Truck speed [km/h]	To be adapted	To be adapted	To be adapted
Test load [t]	30,48	30,48	30,48
Distance L [m]	200	200	200

The sequence of one cycle shall be carried out with the following actions:

— Start at point A (travelling position).

— Loaded machine standing in engine idle 2 min.

— Travel to position “B” by driving 200 m straight with max. velocity, followed by deceleration and turning 180° in advance to position “B”.

— Stop travelling at position “B”.

— Lift load to max. height.

— Travel forward to position “C” by driving 100 m straight with max. allowed speed (usually this is about 10 km/h to 15 km/h).

— Stop travelling at position “C”.

— Lower load to ground and unlock container.

— Lift empty spreader to one container height lower than max. height (e.g. 4-high trucks to 3-high position).

— Travel forward to position “D” by driving 50 m straight with max. allowed speed (usually this is about 10 km/h to 15 km/h).

— Stop travelling at position “D”.

— Lower empty spreader to travelling position.

— Travel to position “A” by driving 50 m straight with max. speed, followed by deceleration and turning 180° in advance to position “A”.

— Stop travelling at point “A”.

— Empty machine standing in engine idle 2 min.

— Travel to position “B” by driving 200 m straight with max. velocity, followed by deceleration and turning 180° in advance to position “B”.

— Stop travelling at position “B”.

— Lift empty spreader to one container height lower than max. height (e.g. 4-high trucks to 3-high position).

— Travel forward to position “C” by driving 100 m.

— straight with max. allowed speed (usually thisis about 10 km/h to 15 km/h).

— Stop travelling at position “C” above container on ground.

— Lower empty spreader to container on ground and lock container.

— Lift load to max. height.

— Travel forward to position “D” by driving 50 m straight with max. allowed speed (usually this is about 10 km/h to 15 km/h).

— Stop travelling at position “D”.

— Lower load to travelling position.

— Travel to position “A” by driving 50 m straight with max. velocity, followed by deceleration and turning 180° in advance to position “A”.

— Stop travelling at point “A”.

— End of cycle.

Travelling is not permitted whilst lifting/ lowering operations.

Dimensions in metres

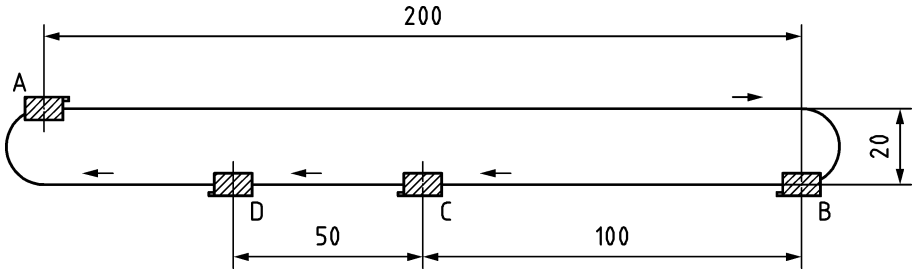

Figure 1 — Test layout straddle carrier energy consumption