ICS 53.060 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2017

STN	**Energetická účinnosť priemyselných vozíkov. Skúšobné metódy. Časť 1: Všeobecne.**	**STN EN 16796-1** 26 8855

Energy efficiency of Industrial trucks - Test methods - Part 1: General

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/17

Obsahuje: EN 16796-1:2016

124552

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 16796-1

November 2016

ICS 53.060

English Version

Energy efficiency of Industrial trucks - Test methods - Part 1: General

Efficacité énergétique des chariots de manutention - Méthodes d'essai - Partie 1 : Généralités

Energieeffizienz von Flurförderzeugen - Testmethoden - Teil 1: Generelles

This European Standard was approved by CEN on 13 August 2016.

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 CEN-CENELEC Management Centre 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 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 16796-1:2016 E

Contents

Page

European foreword

This document (EN 16796-1:2016) has been prepared by Technical Committee CEN/TC 150 “Industrial Trucks - Safety”, the secretariat of which is held by BSI.

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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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

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*.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The EN 16796 series deals with the energy efficiency of industrial trucks and aligns with the New Approach Ecodesign Directive 2009/125/EC (ErP).

Part 1 contains the procedures to determine the efficiency of trucks, traction batteries and battery chargers. The other parts provide a specific test cycle for different truck types.

NOTE The test cycles are based on the VDI 2198 guideline. This guideline is widely accepted by industry and is used to measure the energy consumption of electric industrial trucks and internal combustion industrial trucks. The guideline is in place since 1996 and it is used broadly. This approach allows the evaluation of the energy efficiency of trucks by comparison.

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

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

— market surveillance authorities;

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

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

The abovementioned stakeholder groups have been given the opportunity to participate at the drafting process of this document. The machines concerned are indicated in the Scope of this document.

1 Scope

This European Standard specifies general test criteria and requirements to measure the energy consumption for self-propelled industrial trucks (hereafter referred to as trucks) during operation. For electric trucks, the efficiency of the battery and the battery charger is included.

This part of the EN 16796 series is intended to be used in conjunction with the corresponding EN 16796-2 to -5.

The truck specific requirements in EN 16796-2 to -5 take precedence over the respective requirements of EN 16796-1.

Of the product life cycle, EN 16796 is applicable to the in-use phase.

It applies to the following truck types according to ISO 5053-1:

— counterbalance lift truck;

— articulated counterbalance lift truck;

— lorry-mounted truck;

— reach truck (with retractable mast or fork arm carriage);

— straddle truck;

— pallet-stacking truck;

— pallet truck;

— platform and stillage truck;

— pallet truck end controlled;

— order-picking truck;

— centre-controlled order-picking truck;

— towing, pushing tractor and burden carrier;

— towing and stacking tractor;

— side-loading truck (one side only);

— rough-terrain truck;

— rough-terrain variable-reach truck;

— slewing rough-terrain variable-reach truck;

— variable-reach container handler;

— counterbalance container handler;

— lateral-stacking truck (both sides);

— lateral-stacking truck (three sides);

— non-stacking low-lift straddle carrier;

— multi-directional lift truck.

2 Normative references

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

EN 589, *Automotive fuels — LPG — Requirements and test methods*

EN 590, *Automotive fuels - Diesel - Requirements and test methods*

prEN 1459-1, *Rough terrain trucks — Safety requirements and verification — Part 1: Variable-reach trucks*

EN 1459-2, *Rough-terrain trucks - Safety requirements and verification - Part 2: Slewing variable-reach trucks*

EN 16796 (all parts), *Energy efficiency of Industrial trucks — Test methods*

EN 60254-1, *Lead acid traction batteries - Part 1: General requirements and methods of tests (IEC 60254-1)*

EN ISO 3691-1:2015, *Industrial trucks - Safety requirements and verification - Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks (ISO 3691-1:2011, including Cor 1:2013)*

EN ISO 3691-2, *Industrial trucks - Safety requirements and verification - Part 2: Self-propelled variable-reach trucks (ISO 3691-2)*

EN ISO 3691-6, *Industrial trucks - Safety requirements and verification - Part 6: Burden and personnel carriers (ISO 3691-6)*

ISO 5053-1:2015, *Industrial trucks — Terminology and classification — Part 1: Types of industrial trucks*

ISO 15500-1, *Road vehicles — Compressed natural gas (CNG) fuel system components — Part 1: General requirements and definitions*