

# ANSI/ITSDF B56.11.5-2014

(Revision of ANSI/ITSDF B56.11.5-2005)



# MEASUREMENTS OF SOUND EMITTED BY LOW LIFT, HIGH LIFT, AND ROUGH TERRAIN POWERED INDUSTRIAL TRUCKS

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**AN AMERICAN NATIONAL STANDARD**

**INDUSTRIAL TRUCK STANDARDS DEVELOPMENT FOUNDATION**

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## FOREWORD

(This foreword is not part of ANSI/ITSDF B56.11.5-2014)

Work on this Standard, originally designated as MH11.5M, was begun by the MH11 Committee. With the consolidation of the activities of the MH11 and B56 Committees, the MH11 Committee became the B56.11 Subcommittee, under the jurisdiction of the B56 Committee. The B56 Subcommittee continued the development of this Standard, redesignated as B56.11.5.

After several B56 Committee ballots and public review, the standard was approved by the sponsor. After obtaining such approval, the standard was submitted to the American National Standards Institute, Inc. (ANSI). ANSI approval to issue the standard as American National Standard B56.11.5 was granted on October 5, 1989.

A revision of the 1989 Edition of B56.11.5 was approved by the B56 Committee, by ASME, and, after public review, by the American National Standards Institute on July 10, 1992.

On September 1, 2005, management of the B56 Standards Committee and its subcommittees was transferred from ASME to the Industrial Truck Standards Development Foundation. This Standard was reaffirmed by the B56 Standards Committee after references to ASME were changed to ITSDF.

The 2014 edition of B56.11.5 was approved by the American National Standards Institute on November 19, 2014.

This Standard shall become effective 1 year after its respective Date of Issuance. Safety codes and standards are intended to enhance public health and safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

## ITSDF STANDARDS COMMITTEE ROSTER B56 Powered and Nonpowered Industrial Trucks

(The following is the roster of the Committee at the time of approval of this Standard.)

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**Dave Norton** (Alt. to Bartels), Raymond  
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## **ANSI/ITSDF B56.11.5-2014 SUMMARY OF CHANGES**

Following approval by the ITSDF B56 Committee and after public review, ANSI/ITSDF B56.11.5-2014 was approved as a revision by ANSI on November 19, 2014. The revision consists of the following:

Remove US Customary Units from document (Use only metric units)

4.1 Update references

4.2 Update references

4.3 Update references

5. Modify definition of maximum travel speed

6.1.1 Update references

6.1.7 Update references

Remove Alternate Test Procedure (6.1.9)

6.6.5 (b) Define “operation speed of climatization equipment when truck is fitted with a cab”.

Eliminate Test Mode 4 (7.2.4.4)

7.3.1 Modify the mode fractional weighting factors

Remove Alternate Test Procedure (7.4)

Remove Appendix A, B, and C

## POWERED AND NONPOWERED INDUSTRIAL TRUCKS

### B56 SERIES INTRODUCTION

#### GENERAL

This Standard is one of a series that have been formulated with the Industrial Truck Standard Development Foundation as Sponsor in accordance with the Accredited Organization method, the procedures accredited by the American National Standards Institute, Inc., and the following scope:

Establishment of the safety requirements relating to the elements of design, operation, and maintenance; standardization relating to principal dimensions to facilitate interchangeability, test methods, and test procedures of powered and nonpowered industrial trucks (not including vehicles intended primarily for earth moving or over-the-road hauling); and maintenance of liaison with the International Organization for Standardization (ISO) in all matters pertaining to powered and nonpowered industrial trucks.

One purpose of the Standard is to serve as a guide to governmental authorities having jurisdiction over subjects within the scope of the Standard. It is expected, however, that the Standard will find a major application in industry, serving as a guide to manufacturers, purchasers, and users of the equipment.

For convenience, Standards of Powered and Nonpowered Industrial Trucks have been divided into separate volumes:

#### *Safety Standards*

- B56.1 Low Lift and High Lift Trucks
- B56.5 Guided Industrial Vehicles and Automated Functions of Manned Industrial Vehicles
- B56.6 Rough Terrain Forklift Trucks
- B56.8 Personnel and Burden Carriers
- B56.9 Operator Controlled Industrial Tow Trucks
- B56.10 Manually Propelled High Lift Industrial Trucks

#### *Standardization Standards*

- B56.11.1 Double Race or Bi-Level Swivel and Rigid Industrial Casters
- B56.11.4 Hook-Type Forks and Fork Carriers for Powered Industrial Forklift Trucks

- B56.11.5 Measurement of Sound Emitted by Low Lift, High Lift, and Rough Terrain Powered Industrial Trucks
- B56.11.6 Evaluation of Visibility From Powered Industrial Trucks
- B56.11.7 Liquefied Petroleum Gas (LPG) Fuel Cylinders (Horizontal or Vertical) Mounting – Liquid Withdrawal – for Powered Industrial Trucks

Safety standards that were previously listed as B56 volumes but now have different identification due to a change in standards development assignments are as follows:

- NFPA 505 Fire Safety Standard for Powered Industrial Trucks – Type Designations, Areas of Use, Maintenance and Operation (formerly B56.2)
- UL 583 Standard for Safety for Electric-Battery-Powered Industrial Trucks (formerly B56.3)
- UL 558 Standard for Safety for Internal Combustion Engine-Powered Industrial Trucks (formerly B56.4)

If adopted for governmental use, the references to other national codes and standards in the specific volumes may be changed to refer to the corresponding governmental regulations.

The use of powered and nonpowered industrial trucks is subject to certain hazards that cannot be completely eliminated by mechanical means, but the risks can be minimized by the exercise of intelligence, care, and common sense. It is therefore essential to have competent and careful operators, physically and mentally fit, and thoroughly trained in the safe operation of the equipment and the handling of the loads. Serious hazards are overloading, instability of the load, obstruction to the free passage of the load, collision with objects or pedestrians, poor maintenance, and use of equipment for a purpose for which it was not intended or designed.

Suggestions for improvement of these Standards, especially those based on actual experience in their application, shall be submitted to the Secretary of the B56 Committee, ITSDF, 1750 K Street NW, Suite 460, Washington DC 20006.

Comments shall be written in accordance with the following format:

(a) specify paragraph designation of the pertinent volume;

(b) indicate suggested change (addition, deletion, revision, etc.);

(c) briefly state reason and/or evidence for suggested change;

(d) submit suggested changes to more than one paragraph in the order in which they appear in the volume.

The appropriate B56 Subcommittee will consider each suggested revision at its first meeting after receipt of the suggested revision(s).



# MEASUREMENTS OF SOUND EMITTED BY LOW LIFT, HIGH LIFT AND ROUGH TERRAIN POWERED INDUSTRIAL TRUCKS

## 1. SCOPE

This Standard establishes the conditions, test procedures, environment, and instrumentation for the determination and reporting of the A-weighted sound pressure level of electric battery and internal combustion engine powered, low lift, high lift, and rough terrain industrial trucks. It excludes earthmoving machinery, industrial cranes, and vehicles intended primarily for use on public roads.

It provides test procedures for measuring both operator and bystander exposure to sound produced by the trucks.

The test procedures set forth in this Standard provide the basis for determining the contribution powered industrial trucks make to the overall sound level of a selected work area.

## 2. FIELD OF APPLICATION

This Standard applies to all types of low lift, high lift, and rough terrain powered industrial trucks.

This Standard provides methods for testing and reporting sound levels emitted by powered industrial trucks.

This Standard provides specifications for instrumentation, measurement site, microphone locations, and sound analysis, as well as operating conditions for the truck under test.

Tests are provided for trucks both in motion and static, and with lifting gear in operation when appropriate. It is of primary importance that the measurements taken relate to normal operation and procedures, thus including transmission, hydraulic, and mast elevating sounds.

The tests and procedures detailed in Section 7 of this Standard provide a means of establishing Equivalent Sound Levels ( $L_{eq}$ ) by dividing a simplified work cycle into basic elements. This avoids the inconveniences involved in recording measurements during the work cycle, either by the use of tape recorders or dosimeters. The work cycle used reflects the highly cyclical nature of powered industrial truck sound.

## 3. INTERPRETATION

### 3.1 Mandatory and Advisory Rules

To carry out the provisions of this Standard, the word *shall* is to be understood as mandatory and the word *should* as recommended.

### 3.2 Requests for Interpretation

The B56 Committee will render an interpretation of any requirement of this Standard. Interpretations will be rendered only in response to a written request sent to the Secretary of the B56 Committee, ITSDF. The request for interpretation shall be in the following format.

Subject: Cite the applicable paragraph number(s) and provide a concise description.

Edition: Cite the applicable edition of the pertinent standard for which the interpretation is being requested.

Question: Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for approval of a proprietary design or situation. The inquirer may also include any plans or drawings, which are necessary to explain the question; however, they should not contain proprietary names or information.

ITSDF procedures provide for reconsideration of any interpretation when or if additional information, which might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ITSDF Committee or Subcommittee. ITSDF does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

## 4 REFERENCES

### 4.1 American National Standards

ANSI S1.4-1983(R2006) / ANSI S1.4A-1985 (R2006)  
Specification for Sound Level Meters

### 4.2 International Electrotechnical Commission

IEC 61672-1:2002 Sound Level Meters