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ANSI C136.4-1995
(Revision of ANSI C136.4-1989)

American National Standard for Roadway Lighting Equipment—Series Sockets and Series-Sockets Receptacles

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on Roadway Lighting, C136

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American National Standard for Roadway Lighting Equipment—Series Sockets and Series-Socket Receptacles

Sponsor

Accredited Standards Committee on Roadway Lighting Equipment, C136

accredited by the

American National Standards Institute

Secretariat

The Institute of Electrical and Electronics Engineers, Inc.

Approved October 16, 1995

American National Standards Institute

Abstract: Equipment for luminaires for lighting roadways is covered in the following categories: series sockets having medium impact strength and intended for service at high temperatures, series sockets having high impact strength and intended for service at limited temperatures, and series-socket receptacles in the 5000 V classification.
Keywords: lighting roadways, luminaires, roadway lighting equipment, series sockets, series-socket receptacles, sockets

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Introduction

(This introduction is not a part of ANSI C136.4-1995, American National Standard for Roadway Lighting Equipment—Series Sockets and Series-Socket Receptacles.)

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American National Standard for Roadway Lighting Equipment—Series Sockets and Series-Socket Receptacles

1. Scope

This standard covers the following equipment for luminaires for lighting roadways:

a) Series sockets having medium impact strength and intended for service at high temperatures.
b) Series sockets having high impact strength and intended for service at limited temperatures.
c) Series-socket receptacles (hereinafter called the receptacle) in the 5000 V classification.

2. References

This standard shall be used in conjunction with the following publications. When these standards are superseded by an approved revision, the revision shall apply.

ANSI C136.1-1991, American National Standard for Roadway Lighting—Filament Lamps—Guide for Selection.[1]

ANSI C136.2-1985, American National Standard for Roadway Lighting—Luminaires—Voltage Classification.

ANSI PC136.5, Draft American National Standard for Roadway Lighting Equipment—Film Cutouts.[2]

ANSI C136.6-1990, American National Standard for Roadway Lighting—Metal Heads and Reflector Assemblies—Mechanical and Optical Interchangeability.

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[1]ANSI publications are available from the Sales Department, American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036, USA.

[2]This authorized standards project was not approved at the time this standard went to press. It is available from the Institute of Electrical and Electronics Engineers, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, USA.

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3. Voltage classification

The voltage classification shall be in accordance with ANSI C136.2-1985.

4. General

4.1 Clearances and fitting dimensions for series sockets

Clearances and fitting dimensions for series sockets shall be in accordance with figure 1.

4.2 Clearances and fitting dimensions for receptacles

Clearances and fitting dimensions for receptacles shall be in accordance with figure 2.

4.3 Dimensions for series-socket and receptacle bodies

Dimensions for series-socket and receptacle bodies shall be in accordance with the standard practice of the manufacturer and are shown in outline form only in figures 1 and 2.

4.4 Current-carrying parts

Current-carrying parts of series sockets and receptacles shall be capable of carrying 20 A continuously.

4.5 Metal parts

All metal parts of series sockets and receptacles shall be suitable for continuous operation at 200 °C.

5. Series sockets

5.1 Features

Series sockets shall be provided with the following:

a) A short-circuiting device operated by screwing in the lamp (optional).
b) A lamp-base grip to maintain contact pressure by counteracting normal conditions of vibration. This grip shall not interfere with the normal insertion or removal of a lamp.
c) A bumper pad of a material that will withstand a continuous operating temperature of 200 °C without disintegration, located as shown in figure 1.

5.2 Socket body classification

Series socket bodies shall be classified as follows:

a) Medium impact strength, high temperature, the impact strength to be determined in accordance with clause 7.
b) High impact strength, limited temperature, the impact strength to be determined in accordance with clause 7.

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5.3 Socket body operating temperatures

5.3.1 Medium impact strength, high temperature series sockets

Series sockets having medium impact strength, high-temperature bodies shall withstand a continuous operating temperature of 200 °C. (These are for general use.)

5.3.2 High impact strength, limited temperature series sockets

Series sockets having high impact strength, limited temperature bodies shall withstand a continuous operating temperature of 150 °C. (These are primarily for use with open type luminaires, with lamps of 200 W or less.)

6. Receptacles

6.1 Body

The receptacle body shall be of wet-process porcelain or the equivalent.

6.2 Conditions of operation

The conditions of operation described in 4.4 and 4.5 shall apply whether or not the series socket is in the receptacle.

6.3 Temperature

The receptacle shall be capable of withstanding a continuous operating temperature of 200 °C.

6.4 Tension

The receptacle contact spring tension shall be such that a load of 15–25 lbs (6.8–11.34 kg) will be required to pull from the receptacle a socket having a 5/64 in (1.98 mm) space between faces of the socket prongs.

7. Tests

7.1 Impact strength rating

Series-socket bodies shall be tested for their impact strength rating with the testing machine shown in figure 3.

7.2 Medium impact strength rating

Series-socket bodies having a medium impact strength rating shall withstand an impact of 3.5 in-oz (.0247 J) [a 1-in (25.4 mm) steel ball dropped 1 1/2 in (38.1 mm)].

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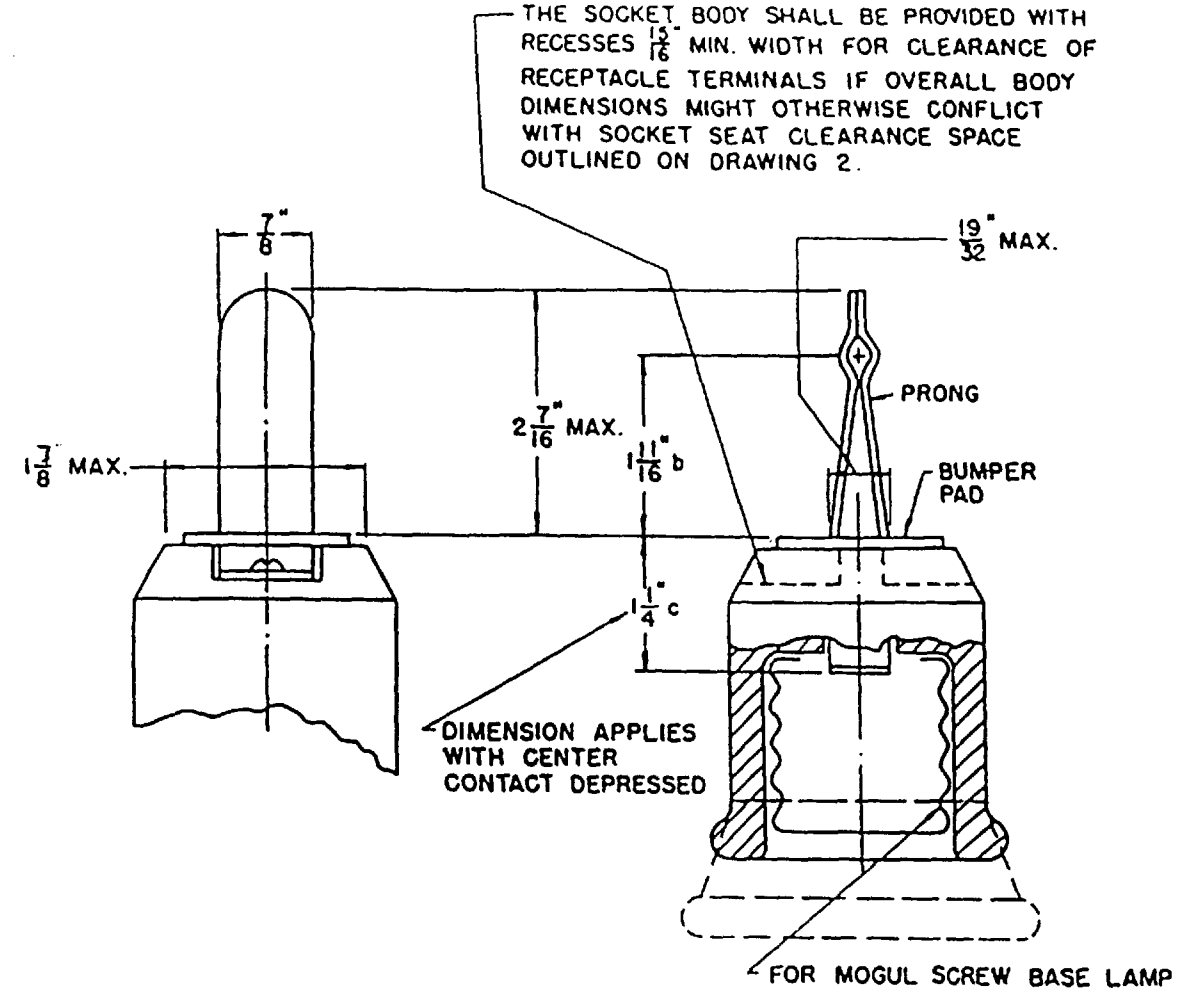
7.3 High impact strength rating

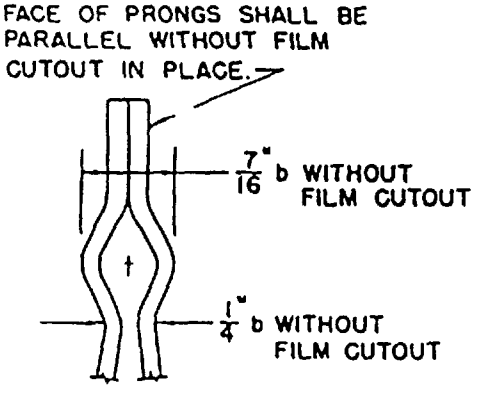
Series-socket bodies having a high impact strength rating shall withstand an impact of 95 in-oz (.671 J) [a 1-1/2 in (38.1 mm) steel ball dropped 12 in (304.8 mm)].

7.4 Voltage tests

The receptacle shall withstand the dry flashover voltage test established for the 5000 V classification in ANSI C136.2-1985. Voltage tests shall be made with the mounting plate and screws in place on the receptacle and shall be made between these and the current-carrying parts of the receptacle.

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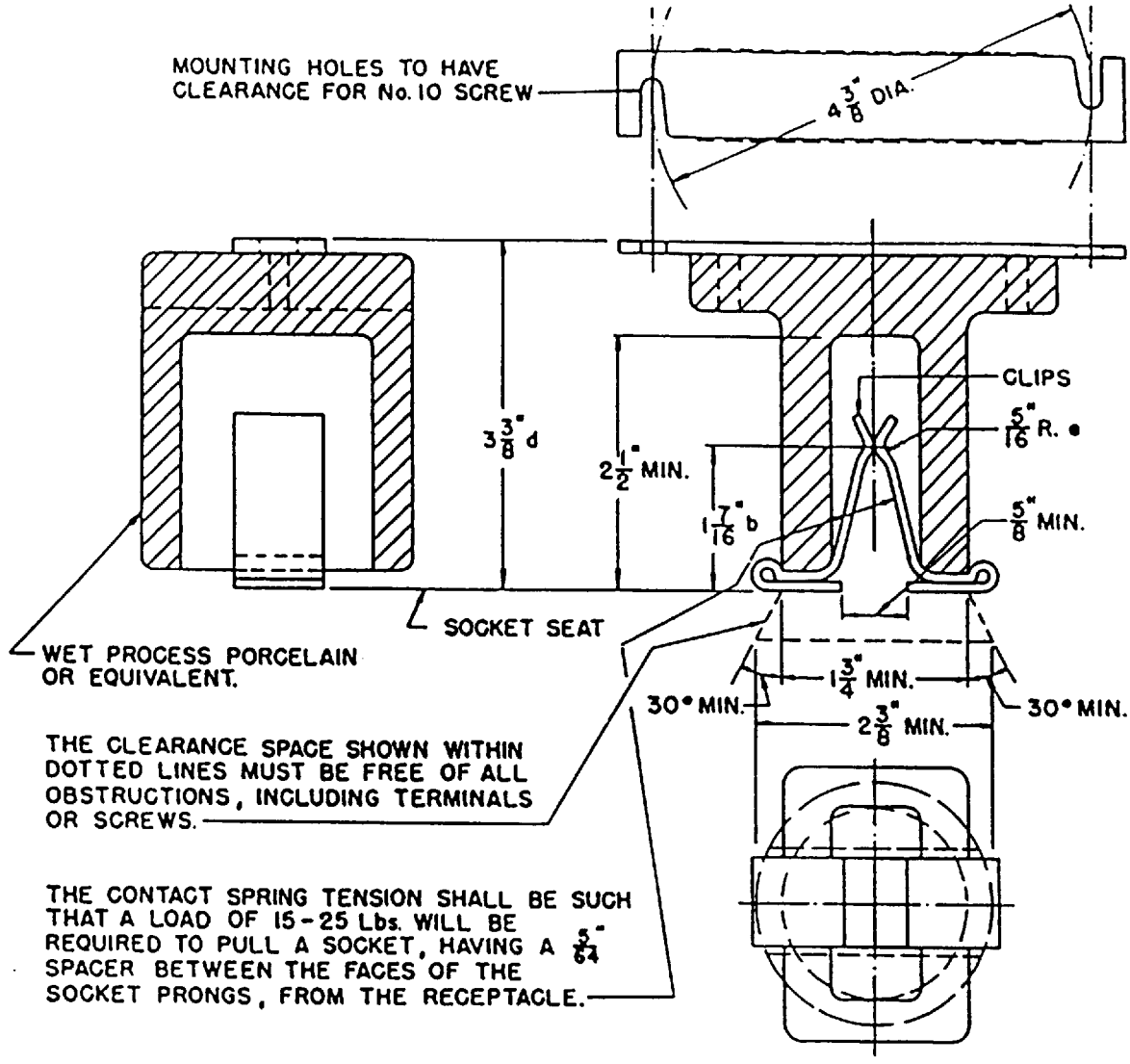
NOTE:
THE LIMITING DIMENSIONS SHOWN FOR THE SOCKET ARE COMPATIBLE WITH THE LIMITING DIMENSIONS SHOWN FOR THE RECEPTACLE.

ENLARGED VIEW OF PRONG

a....1/64"	d....1/8"	g....3/8"	k....1"	ALLOWABLE VARIATIONS
b....1/32"	e....3/16"	h....1/2"	x....0	SINGLE LETTER INDICATES SAME + OR −, a = ±1/64"
c....1/16"	f....1/4"	j....3/4"		TWO LETTERS INDICATE, FIRST + SECOND −, ax = +1/64" − 0

Figure 1—Series sockets

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a....1/64"	d....1/8"	g....1/8"	k....1"
b....1/32"	e....3/16"	h....1/2"	x....0
c....1/16"	f....1/4"	j....3/4"	

ALLOWABLE VARIATIONS
SINGLE LETTER INDICATES SAME +OR−, a = ± 1/64"
TWO LETTERS INDICATE, FIRST + SECOND −, ax = + 1/64" − 0

Figure 2—Series-socket receptacle

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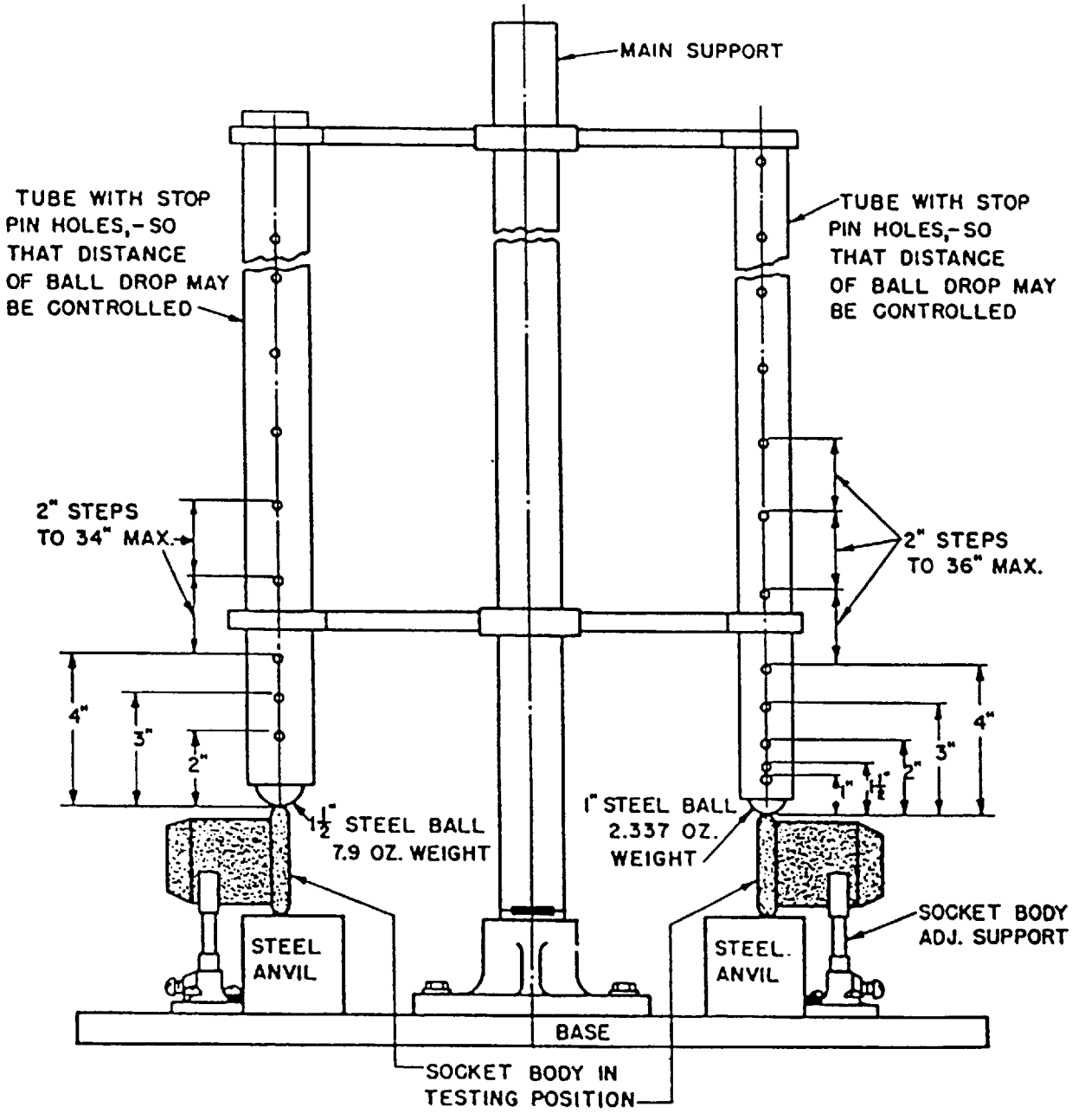


Figure 3—Socket body impact testing machine

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